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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

VARIAN MEDICAL SYSTEMS, INC.,
Plaintiff,
v.
VIEWRAY, INC., et al.,
Defendants.

Case No. [19-cv-05697-SI](#)

CLAIM CONSTRUCTION ORDER

On July 7, 2020, the Court held a claim construction hearing. After consideration of the parties' arguments and the record, the Court enters the following claim construction order.

BACKGROUND

Plaintiff Varian Medical Systems ("Varian") filed this patent infringement action against defendants ViewRay, Inc. and ViewRay Technologies, Inc. (collectively, "ViewRay") on September 10, 2019. Varian alleges that defendants infringe two patents: U.S. Patent Nos. 8,637,841 ("the '841 patent") and 9,082,520 ("the '520 patent") (collectively, the "Asserted Patents"), which are both entitled "Multi Level Multileaf Collimators." The '520 patent is a continuation of the '841 patent, and they share the same specification.

A Multileaf Collimator ("MLC") is a device used in radiotherapy, a cancer treatment in which a beam is generated by a radiation source to administer a dose of radiation to the target tissue. The Asserted Patents claim an invention for multi level MLCs and methods of shaping radiation beams that can reduce radiation leakage and improve beam shaping resolution. '841 Patent at 1:50-55.

All implicated claims are reproduced here for reference, with the disputed terms in bold:

1 **I. U.S. Patent No. 8,637,841: Multi Level Multileaf Collimators (Dkt. No. 37-1, Exhibit**
2 **A)**

3 The '841 patent discloses a device used in radiotherapy to shape the radiation beam as it
4 passes from the radiation source to the treatment site.

5 Claim 1: A multileaf collimator comprising:

6 **a first set of a plurality of pairs of beam blocking leaves arranged adjacent one**
7 **another, leaves of each pair in the first set being disposed in an opposed**
8 **relationship and longitudinally movable relative to each other in a first**
9 **direction; and**

10 a second set of a plurality of pairs of beam blocking leaves arranged adjacent one
11 another, leaves of each pair in the second set being disposed in an opposed
12 relationship and longitudinally movable relative to each other in a second **direction**
13 generally parallel to the first **direction**; wherein

14 the first and second sets of pairs of leaves are disposed in different planes,

15 **each of the first and second sets includes an inner first section of a plurality of**
16 **pairs of leaves having a first cross section and an outer second section of a**
17 **plurality of pairs of leaves having a second cross section, and**

18 the first cross section of the leaves in the first section of the first set is thinner than
19 the first cross section of the leaves in the first section of the second set; and

20 **wherein the second section in each of the first and second sets includes a**
21 **plurality of pairs of leaves at each side of the inner first section.**

22 Claim 12 (representative of claims 13-19): A multileaf collimator, comprising:

23 **a first set of a plurality of pairs of beam blocking leaves arranged adjacent one**
24 **another, leaves of each pair in the first set being disposed in an opposed**
25 **relationship and longitudinally movable relative to each other in a first**
26 **direction; and**

27 a second set of a plurality of pairs of beam blocking leaves arranged adjacent one
28 another, leaves of each pair in the second set being disposed in an opposed
relationship and longitudinally movable relative to each other in a second **direction**
generally parallel to the first **direction**;

wherein the first and second sets of pairs of leaves are disposed in different planes,
and each leaf in the first set is offset from a leaf in the second set by about half a leaf
width in a direction generally traverse to the first and second directions, and

wherein each leaf in the first set has a substantially same first cross-section, and
each leaf in the second set has a substantially same second cross-section, and the
first cross-section is different from the second cross-section.

Claim 19: The multileaf collimator of claim 12 wherein the leaves in the first set
include a **main portion having a height and an end portion having one or two**
projections extended beyond the height of the main portion.

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Claim 20: A method of shaping radiation beams from a radiation source, comprising:

providing a multileaf collimator between a radiation source and an isocenter, said multileaf collimator comprising first and second sets of a plurality of beam blocking leaves disposed in first and second planes, leaves in each of the first and second sets being arranged in two opposing arrays forming a plurality of pairs of leaves in the first and second sets respectively, leaves of each pair being arranged in an opposed relationship and longitudinally movable relative each other, and the longitudinal moving **directions** being substantially parallel generally traverse to a beam **direction**; and

moving selected pairs of leaves in the first and second sets from the two opposing arrays in a substantially parallel **direction** to close ends of opposing leaves of the selected pairs to block a selected portion of a radiation beam;

wherein in moving the selected pairs of leaves to close the ends of opposing leaves to block the selected portion of the radiation beam, **a pair of leaves in the first set close at a first location, a corresponding pair of leaves in the second set close at a second location, and the first and second locations are offset from a beam's point of view.**

II. U.S. Patent No. 9,082,520: Multi Level Multileaf Collimators (*Dkt. No. 37-2, Exhibit B*)

The '520 patent is a continuation of the '841 patent.

Claim 1 (representative of claim 3): A multileaf collimator comprising:

a first set of a plurality of pairs of beam blocking leaves arranged adjacent one another, leaves of each pair in the first set being disposed in an opposed relationship and longitudinally movable relative to each other in a first direction; and

a second set of a plurality of pairs of beam blocking leaves arranged adjacent one another, leaves of each pair in the second set being disposed in an opposed relationship and longitudinally movable relative to each other in a second **direction** generally parallel to the first **direction**; wherein

the first and second sets of pairs of leaves are disposed in different planes and the first set of pairs of leaves comprises a first quantity of pairs of leaves and the second set of pairs of leaves comprises a second quantity of pairs of leaves wherein the first quantity and the second quantity are different.

Claim 6: A multileaf collimator, comprising:

a first set of a plurality of pairs of beam blocking leaves arranged adjacent one another, leaves of each pair in the first set being disposed in an opposed relationship and longitudinally movable relative to each other in a first direction; and

a second set of a plurality of pairs of beam blocking leaves arranged adjacent one another, leaves of each pair in the second set being disposed in an opposed relationship and longitudinally movable relative to each other in a second **direction** generally parallel to the first **direction**; wherein

1 the leaves of the first set are disposed in a first level providing first projected widths
2 at an isocenter plane, and the leaves of the second set are disposed in a second level
3 providing, at the isocenter plane, second projected widths that are substantially same
4 as the corresponding first projected widths; and

5 the leaves in the first level are arranged offset from the leaves in the second level in
6 a **direction** generally traverse to the first and second **directions** such that one of the
7 first projected widths offsets about half of corresponding one of the second projected
8 widths at the isocenter.

9 Claim 14: The multileaf collimator of claim 6 wherein at least some of the leaves of
10 the first set have **an end portion having an upward and/or downward extended**
11 **portion**.

12 LEGAL STANDARD

13 Claim construction is a matter of law. *Markman v. Westview Instr., Inc.*, 517 U.S. 370, 372
14 (1996). Terms contained in claims are “generally given their ordinary and customary meaning.”
15 *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). “[T]he ordinary and customary
16 meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the
17 art in question at the time of the invention[.]” *Id.* at 1313. In determining the proper construction
18 of a claim, a court begins with the intrinsic evidence of record, consisting of the claim language, the
19 patent specification, and, if in evidence, the prosecution history. *Id.* at 1314; *see also Vitronics*
20 *Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). “The appropriate starting
21 point...is always with the language of the asserted claim itself.” *Comark Communications, Inc. v.*
22 *Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998); *see also Abtox, Inc. v. Exitron Corp.*, 122 F.3d
23 1019, 1023 (Fed. Cir. 1997).

24 Accordingly, although claims speak to those skilled in the art, claim terms are construed in
25 light of their ordinary and accustomed meaning, unless examination of the specification, prosecution
26 history, and other claims indicates that the inventor intended otherwise. *See Electro Medical*
27 *Systems, S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994). The written
28 description can provide guidance as to the meaning of the claims, thereby dictating the manner in
which the claims are to be construed, even if the guidance is not provided in explicit definitional
format. *SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc.*, 242 F.3d 1337, 1344
(Fed. Cir. 2001). In other words, the specification may define claim terms “by implication” such

1 that the meaning may be “found in or ascertained by a reading of the patent documents.” *Vitronics*,
2 90 F.3d at 1582, 1584 n.6.

3 In addition, the claims must be read in view of the specification. *Markman v. Westview*
4 *Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996). Although claims
5 are interpreted in light of the specification, this “does not mean that everything expressed in the
6 specification must be read into all the claims.” *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 957
7 (Fed. Cir. 1983). For instance, limitations from a preferred embodiment described in the
8 specification generally should not be read into the claim language. *See Comark*, 156 F.3d at 1187.
9 However, it is a fundamental rule that “claims must be construed so as to be consistent with the
10 specification[.]” *Phillips*, 415 F.3d at 1316 (citations omitted). Therefore, if the specification
11 reveals an intentional disclaimer or disavowal of claim scope, the claims must be read consistently
12 with that limitation. *Id.*

13 Finally, the Court may consider the prosecution history of the patent, if in evidence.
14 *Markman*, 52 F.3d at 980. The prosecution history limits the interpretation of claim terms so as to
15 exclude any interpretation that was disclaimed during prosecution. *See Southwall Technologies,*
16 *Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995). In most situations, analysis of this
17 intrinsic evidence alone will resolve claim construction disputes. *See Vitronics*, 90 F.3d at 1583.

18 Courts should not rely on extrinsic evidence in claim construction to contradict the meaning of
19 claims discernable from examination of the claims, the written description, and the prosecution
20 history. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999)
21 (citing *Vitronics*, 90 F.3d at 1583). However, it is entirely appropriate “for a court to consult
22 trustworthy extrinsic evidence to ensure that the claim construction it is tending to from the patent
23 file is not inconsistent with clearly expressed, plainly apposite, and widely held understandings in
24 the pertinent technical field.” *Id.* at 1309. Extrinsic evidence “consists of all evidence external to
25 the patent and prosecution history, including expert and inventor testimony, dictionaries, and
26 learned treatises.” *Phillips*, 415 F.3d at 1317 (citation omitted). All extrinsic evidence should be
27 evaluated in light of the intrinsic evidence. *Id.* at 1319.

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1 **DISCUSSION**

2 Pursuant to Patent Local Rule 4-3(a), parties are required to identify up to ten terms whose
3 construction will be most significant to the resolution of the case. Patent L. R. 4-6. The parties
4 have identified eight disputed terms for construction.¹

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6 **I. '841 Patent – “wherein each leaf in the first set has a substantially same first cross-
7 section, and each leaf in the second set has a substantially same second cross-section,
8 and the first cross-section is different from the second cross-section” ('841 claims 12-
9 19)**

10

Plaintiff	Defendant
plain and ordinary meaning	indefinite

11 *The Court finds this term indefinite pursuant to 35 U.S.C. § 112, ¶2.*

12 Varian argues that the term does not need construction, while ViewRay contends that the
13 term is indefinite. A patent specification must “conclude with one or more claims particularly
14 pointing out and distinctly claiming the subject matter which the applicant regards as his invention.”
15 35 U.S.C. § 112, ¶ 2. The Supreme Court has stated that “a patent is invalid for indefiniteness if its
16 claims, read in light of the specification delineating the patent, and the prosecution history, fail to
17 inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus,*
18 *Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014).² “The definiteness standard ‘must allow
19 for a modicum of uncertainty’ to provide incentives for innovation, but must also require ‘clear
20 notice of what is claimed, thereby appris[ing] the public of what is still open to them.’” *Interval*
21 *Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014) (quoting *Nautilus*, 572 U.S. at

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23 ¹ Two terms that were initially submitted in the Joint Claim Construction Statement are no
24 longer in dispute, as ViewRay agreed in its response brief that those terms should be given their
plain and ordinary meanings.

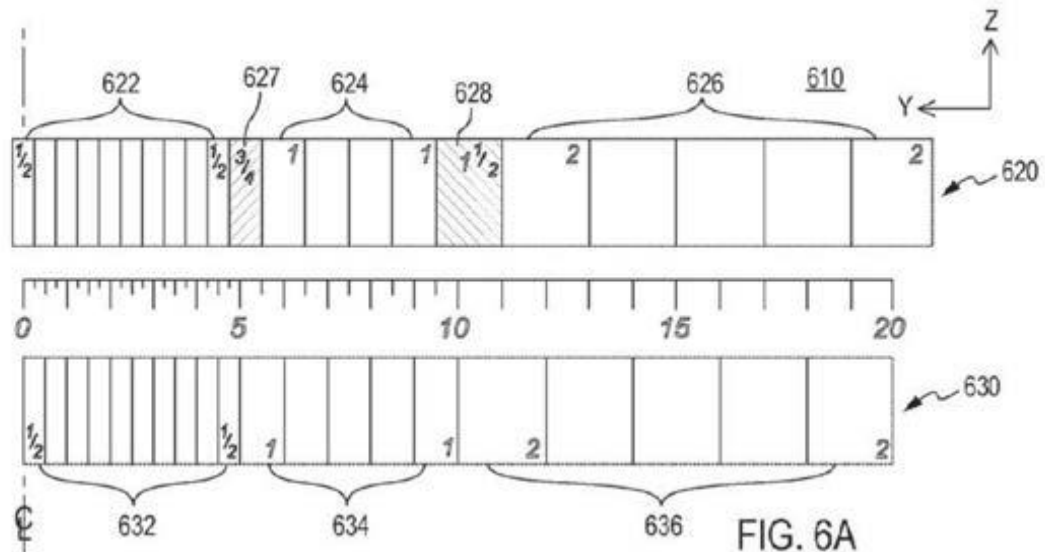
25 ² Varian’s expert, Dr. Bush, considers a person of ordinary skill in the art (POSITA) to be
26 one that has “an undergraduate degree in physics, biomedical engineering, or a similar degree and
27 at least two years of work experience with multileaf collimators. A person with less education but
28 more relevant practical experience may also meet this standard.” Dkt. No 70-2 at 6. ViewRay’s
expert, Dr. Low, considers a POSITA to be one that “hold[s] a Ph.D. in physics, medical physics,
or a related discipline, and have at least three years’ experience working in medical physics,
specifically in the field of external beam radiotherapy (extensive experience and technical training
may substitute for the education requirement).” Dkt. No. 70-3 at 5.

1 909).

2 ViewRay asserts that the '841 patent lacks guidance in determining claim scope because the
3 '841 patent specification and claim language (1) do not provide guidance on what it means for each
4 leaf in a set to have a “substantially same” cross section, and (2) do not provide guidance on how
5 “different” the cross section of leaves in the first set needs to be from the cross section of leaves in
6 the second section for them to satisfy the limitation “the first cross section is different from the
7 second cross section.”

8 Varian contends that numerical precision is not required under *Nautilus*, and that the Federal
9 Circuit has held that relative terms such as “substantially” do not render a claim term indefinite.
10 Varian also argues that the specification, and in particular Figures 2 and 6A and 6B, provide
11 sufficient guidance regarding what qualifies as “substantially same” and “different” cross sections.
12 Both parties have submitted declarations from their experts on this issue, and the Court heard
13 testimony from the experts at the claim construction.

14 Figure 6A is a cross-sectional view of a portion of an exemplary multi level MLC providing
15 variable width definition in accordance with some embodiments. '841 Patent at 8:34-36.³



25 The specification states that “[l]eaves may have a cross-section of trapezoidal, rectangular
26 or other shapes.” *Id.* at 8:42-43; *id.* at 6:35-40. With regard to Figure 6A, the specification teaches

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28 ³ Figure 6B illustrates another alternative embodiment with variable leaf widths. *Id.* at 9:24-27.

1 that “[t]he MLC 610 may include a first section of leaves 622 with a first cross-section that provides
2 for a first substantially same width definition (e.g. ½ cm), a second section of leaves 624 with a
3 second cross-section that provides for a second substantially same width definition (e.g. 1 cm), and
4 optionally a third section of leaves 626 with a third cross-section that provides for a third
5 substantially same width definition (e.g. 2 cm) at the isocenter, and so on.” *Id.* at 8:44-51. The
6 specification also states that leaves that are ½ cm are “different” from leaves that are 1.0 cm wide.
7 *Id.* at 8:36-39. Varian argues that Figure 6A shows what is “substantially same” and what is
8 “different.”

9 However, the specification is silent as to whether the transition leaf in Figure 6A (627, ¾ cm
10 wide) would be considered “substantially same” or “different” from the adjacent leaves. In addition,
11 when describing cross sections with widths of ½ and 1.0 cm as “different,” the specification does
12 not provide guidance whether an absolute value difference of ½ centimeter width is sufficient for
13 the cross section to be “different” or whether it is the 100% increase in width from ½ to 1.0 cm that
14 makes them “different.” Further, the Court notes that while Figure 6A (and Figure 6B) could
15 potentially shed some light on what is considered a “substantially same” or “different” cross-section
16 in that the specification states that leaves with a width of ½ cm are “substantially same” as each
17 other and “different” from leaves with width of 1 cm, Figure 6A is not an embodiment of Claim 12.
18 Figure 6A depicts an embodiment in which the first set contains both “substantially same” and
19 “different” widths. *See also* Tr. at 46-47, 53-54, 67 (Dr. Bush’s testimony that Figure 6A is not
20 within the scope of Claim 12) (Dkt. No. 93).

21 Varian also argues that the patent provides additional guidance by explaining the purpose
22 and significance of having similar versus different cross-sections, namely to account for beam
23 divergence from the radiation source. Dkt. No. 79-4 at 8. The ‘841 Patent teaches that “the physical
24 width of leaves at different levels may be different to provide the same projected width definition at
25 the isocenter. ‘841 Patent at 6:35-48. Varian contends that Figure 2 illustrates the “specific and
26 measurable geometric relationship for objectively determining whether leaves have substantially the
27 same or different cross-sections, guided by the goal of projecting substantially the same leaf widths
28 as the isocenter.” Dkt. No. 79-4 at 6-7. Varian argues that, as explained by Dr. Bush and in the

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specification, leaf focus, dimensions, and angles are all relevant because the geometric relationship depicted in Figure 2 instructs a POSITA to account for beam divergence. *Id.* at 6-8.

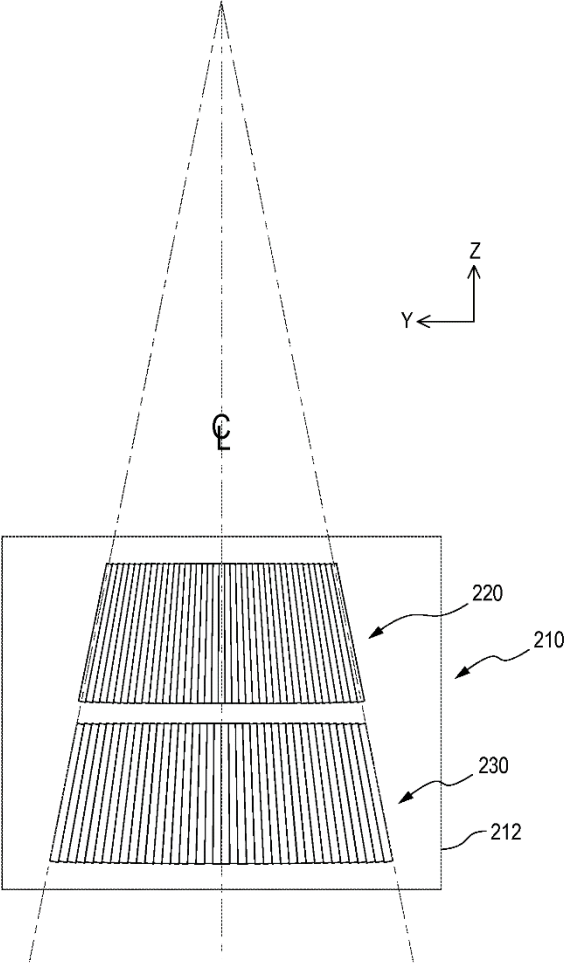


FIG. 2

However, Figure 2 does not contain any dimensions or numerical information, and the specification states that “the figures are not drawn to scale.” ‘841 Patent at 3:31-33. At the claim construction hearing, ViewRay’s expert Dr. Low testified that he made calculations based upon Figure 2 and found that the relative size of the lower set (230) was approximately 14-15 percent larger than the upper set (220), and that otherwise the cross section of the leaves of lower set was identical in shape, angles, relative symmetry, and height to the cross section of the leaves of the upper set. Tr. at 18-19. Dr. Low also looked at the individual leaves within the upper set (220), and compared the center leaf (at CL), which “is a nice symmetric trapezoid” to the edge leaf, which is a

1 “skewed trapezoid.” *Id.* at 20. Dr. Low stated that there was a fair amount of variation within the
2 cross section of the leaves of the upper set with regard to shape, angles and offset. *Id.* Thus, Dr.
3 Low opined that Figure 2 did not provide objective guidance as to what constitutes a “substantially
4 same” cross section within a single set given the variation within the single set as to shape, angles
5 and offset but where the leaves were all the same width, nor did it provide guidance as to what
6 constitutes a “different” cross section as between the upper and lower sets when the shapes were
7 identical and the only difference was width. *Id.*

8 The Court concludes that claims 12-19 of the ‘841 Patent are indefinite because the patent
9 fails to inform with reasonable certainty those skilled in the art about the scope of what constitutes
10 “substantially same” and “different” cross-sections. As an initial matter, the Court agrees with
11 ViewRay that there is nothing in the plain language of the claims that sheds light on the boundary
12 line between “substantially same” and “different.” The Court also finds that the specification does
13 not contain objective guidance to inform a POSITA regarding what cross sections would qualify as
14 “substantially same” or “different.” The Court recognizes that “the term ‘substantially’ is a
15 descriptive term commonly used in patent claims to ‘avoid a strict numerical boundary to the
16 specified parameter.’” *Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1367 (Fed. Cir. 2001).
17 However, “[a]lthough absolute or mathematical precision is not required, it is not enough, as some
18 of the language in our prior cases may have suggested, to identify ‘some standard for measuring the
19 scope of the phrase.’” *Interval Licensing*, 766 F.3d at 1370-71 (quoting *Datamize, LLC v. Plumtree*
20 *Software, Inc.*, 417 F.3d 1342, 1351 (Fed.Cir.2005). “The claims, when read in light of the
21 specification and the prosecution history, must provide objective boundaries for those of skill in the
22 art.” *Interval Licensing*, 766 F.3d at 1371. Here, there are no objective boundaries in the patent for
23 when leaf width is considered “substantially same” versus “different.” Figure 6A provides some
24 examples of what could be considered “substantially same” and “different” – but Figure 6A does
25 not provide guidance on the objective boundaries, nor is there any such guidance elsewhere in the
26 specification. The Court also notes that Dr. Bush testified that a 1-3 percent difference in leaf width
27 would qualify as “substantially same” while a 20-50% in leaf width would not, and that a POSITA
28 would know that based upon dimensions, angles, and position of the radiation source. Tr. at 51-56.

1 However, the specification does not disclose any dimensions, angles, or position of radiation source.
 2 Thus, the patent lacks information as to the boundaries of the claim.

3 Accordingly, the Court finds this claim term indefinite.⁴

4
 5 **II. '841 Patent and '520 Patent – “a first set of a plurality of pairs of beam blocking**
 6 **leaves arranged adjacent one another, leaves of each pair in the first set being**
 7 **disposed in an opposed relationship and longitudinally movable relative to each other**
 8 **in a first direction” ('841 claims 1 and 12 and '520 claims 1 and 6)**

Plaintiff	Defendant
plain and ordinary meaning	The first set may be above or below the second set.

9
 10 *The Court construes this term as “a first set of a plurality of pairs of beam blocking leaves*
 11 *arranged adjacent one another, leaves of each pair in the first set being disposed in an opposed*
 12 *relationship and longitudinally movable relative to each other in a first direction (the first set may*
 13 *be above or below the second set).”*

14 Varian asserts that the parenthetical is unnecessary and that it improperly adds a positional
 15 limitation. However, the claims at issue require that the first and second sets are disposed in
 16 different planes or a first and second level, and Varian agrees that, as a factual matter, the “first set
 17 may be above or below the second set.” The Court finds that the additional parenthetical will add
 18 clarity for the jury.

19 Therefore the Court construes this term as “a first set of a plurality of pairs of beam blocking
 20 leaves arranged adjacent one another, leaves of each pair in the first set being disposed in an opposed
 21 relationship and longitudinally movable relative to each other in a first direction (the first set may
 22 be above or below the second set).”

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 28 ⁴ The Court is not persuaded by Varian’s arguments that ViewRay is taking positions in the IPR that are inconsistent with the indefiniteness contention it has advanced before this Court.

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III. '841 Patent and '520 Patent – “Direction(s)” ('841 claims 1, 12 and 12 and '520 claims 1, 3 and 6)

Plaintiff	Defendant
“direction, including the opposite of the direction and a plurality of directions that are parallel to the direction, as well as both linear and arc trajectories”	A direction, including the opposite (<i>i.e.</i> orthogonal) direction and a plurality of directions that are parallel to the direction, as well as both linear and arc trajectories.

The Court construes this term as “direction, including the opposite of the direction and a plurality of directions that are parallel to the direction, as well as both linear and arc trajectories”

Varian’s proposed construction tracks the definition provided by the specification of the Asserted Patents. *See* '841 Patent at 3:50-53 (“[R]eference to ‘a direction’ includes the opposite direction of the direction and a plurality of directions that are parallel to the direction. A direction includes both linear and arc trajectories.”); '520 at 3:59-62 (same). “[A] patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

The Court finds that ViewRay’s proposed parenthetical defining “opposite” to mean orthogonal is unsupported by any intrinsic or extrinsic evidence, and indeed ViewRay does not cite any evidence suggesting that “opposite” means “orthogonal.” The Court is not persuaded by ViewRay’s argument that “opposite” must mean “orthogonal” because, according to ViewRay, “forwards and backwards are considered the same direction, because these are linear directions that are parallel to each other.” Dkt. No. 78-4 at 19. Varian’s construction is supported by the specification, and thus the Court adopts it.

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IV. '841 Patent – “each of the first and second sets includes an inner first section of a plurality of pairs of leaves having a first cross section and an outer second section of a plurality of pairs of leaves having a second cross section” ('841 claim 1)

Plaintiff	Defendant
plain and ordinary meaning	The first cross section is different from the second cross section (<i>e.g.</i> has a different width and/or shape).

The Court construes this term in accordance with the plain and ordinary meaning.

The Court agrees with Varian that this term does not require construction, and that ViewRay’s proposed construction improperly adds a limitation based upon a preferred embodiment shown in Figures 6A and 6B requiring that the first and second cross sections are different from each other. The designation of “first” and “second” cross sections means that two cross sections exist; the first and second cross sections could be different from each other in width and/or shape, but the claim language and specification do not require that they be so. *See, e.g., Linear Tech. Corp. v. Int’l Trade Comm’n*, 566 F.3d 1049, 1055 (Fed. Cir. 2009) (approving construction of “second circuit” and “third circuit” “defining the terms broadly to not require entirely separate and distinct circuits [because] there is nothing in the claim language or specification that supports narrowly construing the terms to require a specific structural requirement or entirely distinct ‘second’ and ‘third’ circuits.”). The Court disagrees with ViewRay that the plain and ordinary meaning of the term excludes the preferred embodiment because the plain and ordinary meaning allows for first and second cross sections that differ in shape and/or width.

The Court also finds the cases cited by ViewRay do not compel ViewRay’s construction. *See, e.g., MiTile, Ltd. v. Hasbro, Inc.*, 984 F. Supp. 2d 525, 531 (E.D. Va. 2013) (on summary judgment, finding that the communications unit and proximity sensor were separate components because “[t]he specification refers to the communication device as ‘a wireless device’ and the proximity sensor as ‘a magnetic or electrical device[.]’”); *Mobile Telecommunications Techs., LLC v. Leap Wireless Int’l, Inc.*, No. 2:13-CV-885-JRG-RSP, 2015 WL 2250056, at *7 (E.D. Tex. May 13, 2015) (where parties agreed that “first” and “second” sets of transmitters were not identical, construing the terms to require that they be not identical but rejecting the defendant’s construction adding additional geographical limitation).

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Therefore, the Court finds that ViewRay’s proposed construction is unduly limiting and the broader interpretation to be more appropriate. The Court will construe this term according to its plain and ordinary meaning.

V. ’841 Patent – “wherein the second section in each of the first and second sets includes a plurality of pairs of leaves at each side of the inner first section” (’841 claim 1)

Plaintiff	Defendant
plain and ordinary meaning Alternative construction: “wherein, in each of the first and second sets, the inner first section is positioned between the plurality of pairs of leaves of the second section”	The second section in each of the first and second sets includes at least two pairs of leaves on one side of the inner first section and at least two pairs of leaves on the other side of the inner first section (<i>i.e.</i> , the second section in each of the first and second set must include at least four pairs of leaves, which would include at least eight individual leaves).

The Court construes this term as “[t]he second section in each of the first and second sets includes at least two pairs of leaves on one side of the inner first section and at least two pairs of leaves on the other side of the inner first section.”

The Court rejects Varian’s proposal that this term be construed in accordance with its plain and ordinary meaning given the parties’ dispute as to whether the “plurality of pairs of leaves” are *shared* by both sides surrounding the inner section, or if each flank of the surrounding section has its *own* “plurality of pairs of leaves.” Even if the patentee intended the former, as written neither the claim term nor any intrinsic evidence proffered by Varian alert a POSITA to Varian’s asserted scope of the claim. Grammatically, “a plurality of pairs of leaves at each side” supports the reading that “[t]he second section in each of the first and second sets includes at least two pairs of leaves on one side of the inner first section and at least two pairs of leaves on the other side of the inner first section,” and the Court will construe it as such. The additional parenthetical proposed by ViewRay is unnecessary.

1 **VI. '841 Patent – “a main portion having a height and an end portion having one or two**
 2 **projections extended beyond the height of the main portion” ('841 claim 19)**

Plaintiff	Defendant
plain and ordinary meaning	The end portion (<i>i.e.</i> , the leading edge of a leaf that is inserted into a radiation field to abut an opposing leaf) has one or two projections extended beyond the height of the main portion (<i>i.e.</i> , beyond the height of the side surface throughout the remainder of the length of the leaf).

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8 *The Court construes this term as “a main portion having a height and an end portion (i.e.,*
 9 *the leading edge of a leaf that is inserted into a radiation field) having one or two projections*
 10 *extended beyond the height of the main portion.”*

11 The parties dispute whether the term “a main portion having a height and an end portion
 12 having one or two projections extended beyond the height of the main portion” should be construed
 13 in accordance with its plain and ordinary meaning, or more narrowly as “[t]he end portion (*i.e.*, the
 14 leading edge of a leaf that is inserted into a radiation field to abut an opposing leaf) has one or two
 15 projections extended beyond the height of the main portion (*i.e.*, beyond the height of the side
 16 surface throughout the remainder of the length of the leaf).” Dkt. No. 70-1 at 3.

17 The Court agrees with ViewRay that based on the claim language alone, the term “end
 18 portion” is ambiguous because it could refer to either the leading edge that is inserted into the
 19 radiation field, or the end of the leaf attached to the motor. The intrinsic evidence supports the
 20 former interpretation. *See* ‘841 Patent at 7:37-44 (referring to Figure 5, describing the upper and
 21 lower level leaves having an “end portion 518 of the upper level leaves 512,” which “may have one
 22 or two ‘tooth’ portions or projections 520a, 520b . . .”); *id.* at 5:63-65 (stating “[t]he ‘end’ of a leaf
 23 refers to the surface of the leaf inserted into the field along the length.”). However, the further
 24 limitation “to abut an opposing leaf” is unnecessary.

25 The remainder of ViewRay’s proposed construction relating to the “main portion”
 26 improperly equates the height of the main portion with the height of the side surface, and impliedly
 27 adds the limitation that the height of the side surface remain constant throughout the remainder of
 28 the leaf. Neither of these limitations is supported by intrinsic evidence.

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The Court thus construes this term as “[t]he end portion (*i.e.*, the leading edge of a leaf that is inserted into a radiation field) has one or two projections extended beyond the height of the main portion.”

VII. '520 Patent – “an end portion having an upward and/or downward extended portion” ('520 claim 14)

Plaintiff	Defendant
plain and ordinary meaning	The end portion (<i>i.e.</i> , the leading edge of a leaf that is inserted into a radiation field to abut an opposing leaf) has an upward and/or downward extended portion that extends beyond the height of the main portion (<i>i.e.</i> , beyond the height of the side surface throughout the remainder of the length of the leaf).

*For the same reasons as discussed for Term #6, the Court construes this term as “[t]he end portion (*i.e.*, the leading edge of a leaf that is inserted into a radiation field) having an upward and/or downward extended portion.”*

VIII. '841 Patent – “a pair of leaves in the first set close at a first location, a corresponding pair of leaves in the second set close at a second location, and the first and second locations are offset from a beam’s point of view” ('841 claim 20)

Plaintiff	Defendant
plain and ordinary meaning alternative construction: “a pair of leaves in the first set close at a first location, a corresponding pair of leaves in the second set close at a second location, and the first and second locations are offset from a beam’s point of view in the direction of leaf movement”	The first and second locations are offset from each other in the leaf moving direction or lateral direction or any other direction perceptible from a “beam’s point of view.” The “beam’s point of view” is the view from the source towards the leaves in the direction of the radiation beam.

The Court construes this term as “a pair of leaves in the first set close at a first location, a corresponding pair of leaves in the second set close at a second location, and the first and second

1 *locations are offset from a beam’s point of view in the direction of leaf movement (the ‘beam’s*
2 *point of view’ is the view from the source towards the leaves in the direction of the radiation*
3 *beam).”*

4 This term appears in the final wherein clause of method Claim 20. Claim 20 is directed to a
5 method of shaping radiation beams using a set of a plurality of beam blocking leaves on a first plane
6 and a set of a plurality of beam blocking leaves on a second plane. The first step of Claim 20
7 requires sets of beam blocking leaves that are “longitudinally movable” – move lengthwise –
8 “relative to each other, and the longitudinal moving directions being substantially parallel generally
9 traverse to” – travel through – “beam direction.” ‘841 Patent at 14:14-18. The second step of Claim
10 20 requires that selected pairs of leaves in each set move “in a substantially parallel direction to
11 close ends of opposing leaves of the selected pairs to block a selected portion of a radiation beam.”
12 *Id.* at 14:20-22. The final wherein clause, which includes the disputed term, modifies the second
13 step by requiring that “a pair of leaves in the first set close at a first location, a corresponding pair
14 of leaves in the second set close at a second location, and the first a second locations are offset from
15 a beam’s point of view.” *Id.* at 14:23-28. Because the selected pairs of leaves move “in a
16 substantially parallel direction” the “offset” must be along the direction of leaf movement. A lateral
17 offset, or any other kind of offset besides in the direction of leaf movement, would fail to address
18 the problem of leakage between abutting leaves during closure, and the Court is not persuaded by
19 ViewRay’s arguments based on the prosecution history.

20 The specification also makes clear that the “offset” is in the direction of leaf movement. *See*
21 *id.* at 9:47-52 (“To reduce leakage between abutted leaf ends that may be intended to close in shaping
22 a treatment field, the ends of the abutted leaves at a level may close at a position slightly offset, in
23 the leaf travel direction (e.g., x-direction), from the position where the ends of the abutted leaves
24 close at a different level.”); *see also id.* at Figs. 7A-7B, 9:54-10:20. Figures 7A and 7B illustrate the
25 offset in the direction of leaf movement:

26 Therefore, the Court finds the appropriate construction to be “a pair of leaves in the first set
27 close at a first location, a corresponding pairs of leaves in the second set close at a second location,
28 and the first and second locations are offset from a beam’s point of view in the direction of leaf

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movement (the “beam’s point of view” is the view from the source towards the leaves in the direction of the radiation beam).” The Court finds that the addition of the parenthetical “(the ‘beam’s point of view’ is the view from the source towards the leaves in the direction of the radiation beam)” is necessary because the meaning of “beam’s point of view” is not readily apparent and it is supported by the specification. *See* ‘841 Patent at 1:23-27.

CONCLUSION

For the foregoing reasons and for good cause shown, the Court adopts the constructions set forth above.

IT IS SO ORDERED.

Dated: July 24, 2020



SUSAN ILLSTON
United States District Judge