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(71) Applicant: **ALPHA TAU MEDICAL LTD.** [IL/IL]; 5
Kiryat HaMada Street, 9777605 Jerusalem (IL).

(72) Inventors: **KELSON, Itzhak**; 94 Dizengoff Street,
6439606 Tel Aviv (IL). **ARAZI, Lior**; 201/1 Bnei Efrayim
Street, Apt. 8, 6998401 Tel Aviv (IL). **GAT, Amnon**; 16
Oren Street, 4585800 Matan (IL). **HEGER, Guy**; 8a Abba
Achimeir Street, 5258736 Ramat Gan (IL).

(74) Agent: **KLIGLER & ASSOCIATES PATENT ATTOR-
NEYS LTD.**; P.O. Box 57651, 6157601 Tel Aviv (IL).

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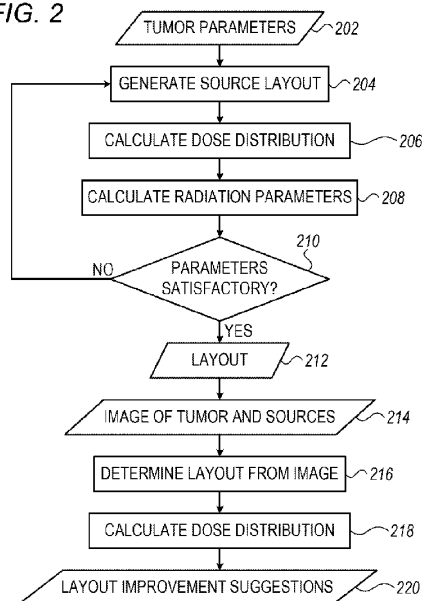
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(54) Title: TREATMENT PLANNING FOR ALPHA PARTICLE RADIOTHERAPY

FIG. 2



(57) Abstract: Apparatus (100) for planning a diffusing alpha-emitter radiation therapy (DaRT) treatment session. The apparatus includes an output interface (110) and a memory (112) configured with a plurality of tables which provide an accumulated measure of radiation over a specific time period, due to one or more types of DaRT radiotherapy sources which emit daughter radionuclides from the source, for a plurality of different distances and angles relative to the DaRT radiotherapy source. In addition, a processor (108) is configured to receive a description of a layout of a plurality of DaRT radiotherapy sources in a tumor, to calculate a radiation dose distribution in the tumor responsive to the layout, using the tables in the memory, and to output feedback for the treatment responsive to the radiation dose distribution, through the output interface.