



Sharpening Filter for Orthovoltage Radiation

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a collimator specifically designed for use with orthovoltage radiation to provide a sharper dose profile.

This innovation may enable orthovoltage radiation treatment of neurological tumors at significantly less expense than existing stereotactic radiosurgery systems.

Overview

Stereotactic radiosurgery (SRS) is a specialized form of radiation therapy that uses a precise, highly localized photon beam to treat small tumors especially in the brain. Reducing beam energy from the standard megavoltage range to the lower orthovoltage energy range would offer many advantages, including space, cost and dosimetric benefits.

The Invention

UW–Madison researchers have developed a compact filter that increases the sharpness of orthovoltage pencil beams and may be tailored to different beam sizes and focus depths.

The technology features a specially designed collimator and filter disk having concentric circular attenuation regions to produce the necessary sharpening effect. The flat design of the filter disk supports easy installation and replacement, and the concentric circular attenuation regions are amenable to computerized optimization of the region sizes and spacing.

Applications

- For use in medical orthovoltage radiation systems as well as small animal research irradiators to sharpen beam dose delivery
- Treatment of neurological tumors
- Installed system likely featuring several different filters, which could be interchanged for a specific radiation treatment plan

Key Benefits

- Improves operation, versatility and manufacturability
- Filter can be easily installed and removed from collimator block.
- Provides clinician a wide range of filtration options

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For More Information About the Inventors

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Related Technologies

- [For more information about improved radiosurgery collimators developed at UW–Madison, see WARF reference number P140368US01.](#)

Tech Fields

- [Radiation Therapy : External beam therapy.](#)

For current licensing status, please contact Jeanine Burmania at jeanine@warf.org or 608-960-9846

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