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## **Overview**

The .decimal astroid Planning App is used for treatment planning of proton radiation therapy treatments. The astroid Planning App is an interactive end user application that leverages the existing .decimal Dosimetry App functions for device creation, dose calculation, and optimization.

Access to the astroid Planning App is provided by the thinknode<sup>™</sup> framework using http json formatted requests. thinknode<sup>™</sup> provides the 'backbone' used to send and receive requests, maintain users, realms and organizations, and provide data storage and management.

Note this product is in the development pre FDA 510(k) stages.

## **User Guide**

The Dosimetry App user guide lists all available api function calls, as well as gives examples of usage and explanation of the affects.

**Getting Started** Basic usage of the astroid Planning App.

**Known Limitations** Known application limitations, defects, or inconsistencies.

## Instructions For Use

The Dosimetry App Instructions For Use outlines the intended use and user requirements of using the Dosimetry App.

**Overview** Intended use and indications for use of **User Profile** Recommended user education and the application. experience level.

Warning Warning of potential misuse.

**Testing Responsibilities** Testing responsibilities for ensuring correct setup and configuration of the astroid Dosimetry App.

**Product Features** High level features of the astroid Dosimetry App.

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## **Reference Documentation**

**Hong et al** A pencil beam algorithm for proton dose calculations

**Slopsema** Incorporation of the aperture thickness in proton pencil-beam dose calculations

**IAEA-TRS-430** Commissioning and Quality Assurance of Computerized Planning Systems for Radiotherapy Treatment Planning Systems: Radiation Treatment of Cancer

IAEA-TECDOC-1583 Commissioning of Testing for Typical External Beam Treatment **Techniques** 

Park Commissioning Commissioning a Proton Therapy Machine and TPS

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