

**IPEN-DOC-**

6038

BR9400003 Chemical solutions and TL detectors for high doses. ✓

Topic codes: 1.

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Sponsoring Organization(s): Comissao Nacional de Energia Nuclear - San Paulo (San Paulo, Brazil).

Organization Type: Foundation or laboratory for research and/or development

Collaborating Organization(s) Conselho Nacional de Desenvolvimento Cientifico e Tecnologico - CNPq; Coordenadoria de Aperfeicoamento de Pessoal de Ensino Superior - CAPES.

Program Duration:

From 1992.01

To 1995.12

Status of Advancement: Research in progress.

References of recent publications in the same field issued from this laboratory:

Caldas L.V.E., Souza C.N.: High dose dosimetry using glass detectors in electron beams, Proc. Int. Symp. High-Dose Dosimetry for Radiation Processing, Vienna, (1990).

INIS categories: E41.10

Glass detectors as high dose dosimeters are being studied at IPEN since 1989, under gamma and electron irradiation. Recently their behaviour was compared to that of chemical dosimeters and good agreement was achieved. The glass detectors present many advantages, but one disadvantages: thermal fading, that can be controlled by correction factors. Modified ceric sulphate dosimetric systems are in development in order to establish simple, reliable and inexpensive routine chemical dosimeters. In the radiotherapy range the thermoluminescent properties of  $Al_2O_3$  are being studied.

*aluminium oxides; cerium sulfates; chemical dosimeters; electron dosimetry; gamma dosimetry; performance testing; thermoluminescent dosimeters.*

**CHEMICAL DOSEMETERS:** *performance testing;*  
**THERMOLUMINESCENT DOSEMETERS:** *performance testing.*