
Temperature Dependence on the Radiation Induced Attenuation of Fluorine-Doped Optical Fibers

Adriana Morana^{*1}, Martin Roche¹, Hugo Boiron², Gilles Mélin², Emmanuel Marin¹,
Youcef Ouerdane¹, Aziz Boukenter¹, Thierry Robin², and Sylvain Girard^{1,3}

¹Laboratoire Hubert Curien (LabHC) – Université Jean Monnet - Saint-Etienne, CNRS : UMR5516 –
18 rue du Professeur Luras 42000 SAINT-ETIENNE, France

²Exail – Exail – France

³Institut Universitaire de France – Institut Universitaire de France, Paris, France – France

Abstract

This work focuses on the irradiation temperature (-80°C, room temperature) effects on the radiation induced attenuation (RIA) of a prototype polyimide coated F-doped optical fiber, from the visible to IR spectral range. We highlight the contribution of unstable point defects absorbing at different wavelengths at both temperatures.

Keywords: Optical Fiber, Radiation Induced Attenuation, Temperature

^{*}Speaker