
Mechano-optical couplings in an oxynitride glass-ceramic

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Abstract

Oxynitride glasses were synthesized by conventional melting, quenching and annealing stages at temperatures ranging from 1500 to 1700 °C, in controlled atmosphere. Further heat treatments led to the crystallization of glass-ceramics with remarkable optical and mechanical properties. In such materials, controlling the atmosphere during elaboration allows to tune the atomic structure and to improve the mechanical performance. Glass-ceramics exhibiting mechano-optical couplings were obtained.

Keywords: oxynitride glasses, luminescence, glassceramics, mechanical properties, mechanoluminescence

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