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Morphology of laser-induced damage of lithium niobate and KDP crystals

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Keywords

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Abstract

The regularities of laser-induced damage are studied for $LiNbO_3$ and KDP single crystals. It is shown that the shape of damage in the dielectric crystals depends on the elastic symmetry of crystal and the propagation direction of laser beam. When the beam propagates along the optic axis of those crystals, the figures of laser damage are six-point stars for $LiNbO_3$ and four-point ones for KDP crystals. For the beam direction parallel to the *X* and *Y* axes in the KDP crystal, the damage initially has a cross-like configuration, with splitting of Z-oriented crack into two cracks during its further evolution.