

Title (en)
COHERENT INTERACTION OF OPTICAL RADIATION BEAMS WITH OPTICAL-ELECTRONIC MATERIALS OF GENERALIZED CRYSTAL SYMMETRY

Title (de)
KOHERENTE WECHSELWIRKUNG OPTISCHER STRAHLEN MIT OPTO-ELEKTRONISCHEN MATERIALIEN MIT ALLGEMEINER KRISTALLSYMMETRIE

Title (fr)
INTERACTION COHERENTE DES FAISCEAUX DE RAYONNEMENT OPTIQUES AVEC LES MATERIAUX OPTOELECTRONIQUES DE SYMETRIE CRISTALLINE GENERALISEE

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Application
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Abstract (en)
[origin: WO9905507A1] A method for optimizing the interaction of a resonant material (90) having generalized crystal symmetry with a beam or beams of radiation (from emitters 210). The invention includes determining a special direction relative to the axes of crystal symmetry of the material and polarizing the interaction radiation beam along this direction. The polarized radiation beam (235) is propagated through the material perpendicular to this special direction. The method and system are used in any application which involves the coherent interaction of optical radiation beams or fields with resonant ion-doped or molecular crystals of various types. Coherent interaction of optical radiation beams or field with resonant ion-doped or molecular crystals of various types includes the phenomena of optical coherent transients, spectral hole burning, and spatial-spectral holography (also called time- and space-domain holography) and provides the basis for optical-electronic devices. Such applications include computers and communications networks.

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