

Characterization of a Novel Quaternary Dielectric Crystallographic Family

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In this work is reported the growth and characterization of a novel family of alkali halide crystals, produced for the mixing of four ionic salts. These quaternary crystals imply the existence of four ternary crystals [1] and six known binary crystals. The characterization is applied to two crystals with different component concentration, one of these with a Europium impurity. Is obtained the lattice constant by X ray diffractometry. The optical absorption spectra of irradiated crystals shown a single F band. The Generalized Vegard's law, applied to the novel ternary system recently studied [2], was extended to the quaternary crystal. Good agreement with the experimental results was obtained.

[1] Mijangos R. R., Cordero-Borboa A., Camarillo E., Riveros H., Castaño V., *Physics Letters A*, 1998, **245**, 123. [2] Mijangos R. R., Cordero-Borboa A., Alvarez E., Cervantes M., *Physics Letters A*, 2001, **282**, 512.

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