

**PB119- ENCAPSULATION STUDY OF PERSISTENT LUMINESCENT MATERIAL IN SILICA**

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Luminescent particles are presently attracting great interest due to their potential applications as fluorescent markers in biological investigations and optoelectronic devices.

The purpose of this study was to prepare silica particles encapsulated with persistent luminescence material containing  $\text{Eu}^{2+}$ . In the present work,  $\text{BaAl}_2\text{O}_4:\text{Eu}^{2+},\text{Dy}^{3+}$ -doped silica particles were prepared using a microemulsion method and Stöber synthesis procedure. Determination of the amino groups in the particles was performed using the method involving ninhydrin.

Figure shows the SEM image of particles synthesized by the microemulsion method. This investigation revealed differences between the aluminate and the aluminate-doped silica compounds.

Materials before and after encapsulation showed similar luminescence spectra profile, indicating that the silica preserve their optical properties.

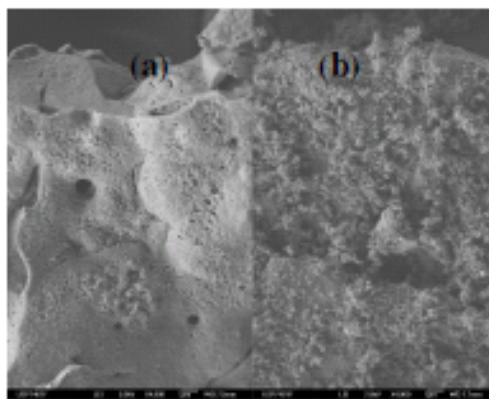


Fig. SEM images of (a)  $\text{BaAl}_2\text{O}_4:\text{Eu}^{2+},\text{Dy}^{3+}$  and (b)  $\text{BaAl}_2\text{O}_4:\text{Eu}^{2+},\text{Dy}^{3+}$ -doped silica obtained with the microemulsion method.