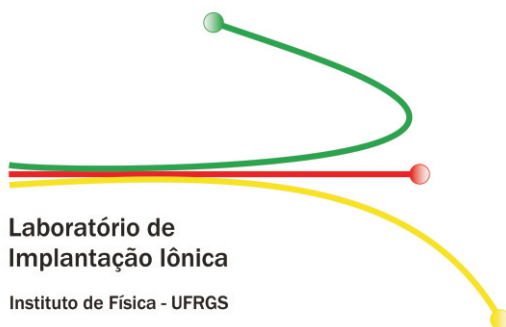




# VII Encontro Sul- Americano de Colisões Inelásticas na Matéria

Gramado, RS, Brasil  
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## Livro de Resumos



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**Inelásticas na Matéria**

Organizadores  
Raul Carlos Fadanelli Filho  
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# MEIS INVESTIGATION OF PT-PD NANOPARTICLES

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MEIS (Medium Energy Ion Scattering) is an ion-beam technique with high resolution that is suitable to study the outermost layers of nanoparticles [1]. In previous studies, it was shown that MEIS can reveal the core-shell structure of CdSe/ZnS nanoparticles [1,2]. Pt-Pd nanoparticles are of extreme importance in nanocatalysis studies nowadays.

By using the surface sensitivity of MEIS, we studied different Pt-Pd nanoparticles prepared via chemical methods. To do that, we used MEIS spectra simulation software POWERMEIS [1] and we compared different models of Pt-Pd arrangement in the nanoparticle. For example, we performed spectra simulations considering a Pt-Pd alloy, Pt-core/Pd shell, Pd-core/Pt-shell, interpenetrate Pt-Pd spheres or isolated Pt and Pd spheres. Through minimization of the difference between theoretical simulation and experimental results, we determined the arrangement of Pt and Pd in the nanoparticle. Our results show that depending on the chemical preparation method, a Pt-Pd alloy or a Pd-core/Pt-shell is formed.

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