Contribution ID: **413** Type: **Poster**

Correlation of Traditional and One-Step Irradiation Process for Chitosan Production from Charybdis Hellerii Crab Shell's

Thursday, 27 April 2017 14:15 (2 hours)

Chitosan is a polysaccharide obtained from chitin's molecule deacetylation, which is the main composition of certain fungi species and crustaceans and insects exoskeleton. The amino groups present in chitosan give it important biological properties such as biodegradability and biocompatibility, activity/immunological effects and antibacterial healing. The deacetylation of chitin is an aggressive process, which reaction processes in 6 to 8 hours under hot concentrated alkali solution. In this work, Charybdis hellerii crab shell's was fragmented and pre-treated for chitosan production and each conversion step, from in natura material pre-treatment to final chitosan, were investigated in deteails. It was observed dose and dose rate applied as in natura as pre-treated chitin have not influence neither pre-treatment process nor chitin deacetylation step; at 20 kGy (from gamma or electron beam sources), the conversion process was performed in 60 minutes. The obtained chitosan presented low weight and deacetylation degree compared to standard chitosan, considering specific irradiation conditions.

Country/Organization invited to participate

Brazil

Primary author: Ms SALLA FERREIRA, Maiara (Instituto de Pesquisas Energéticas e Nucleares, IPEN - CNEN/SP, Brazil)

Co-authors: Ms GERALDO, Aurea (Instituto de Pesquisas Energéticas e Nucleares, IPEN - CNEN/SP, Brazil); Mr MOURA, Eduardo (Instituto de Pesquisas Energéticas e Nucleares, IPEN - CNEN/SP, Brazil)

Presenter: Ms SALLA FERREIRA, Maiara (Instituto de Pesquisas Energéticas e Nucleares, IPEN - CNEN/SP, Brazil)

Session Classification: P-A2

Track Classification: RADIATION SYNTHESIS AND MODIFICATION OF MATERIALS