

Physics Division Seminar

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Nuclear Collectivity and Deformation

Host: Ben Kay

Monday, May 6, 2019 – 203, R150, 3:30 PM

Nuclear physics is unique in treating both single-particle and collective behaviours in a strongly-interacting system. Describing the emergence of these collective phenomena from single-particle models is thus a necessary, but complex, problem. I will discuss collective structures in the nucleus in the context of rotationally invariant sum rules and, through comparison with microscopic shell model calculations, demonstrate how these properties converge. I will then discuss experimental results testing *ab initio* models, before presenting recent results in the *fpg* shell, demonstrating the role of triaxiality in the selenium region. Finally, I will discuss future prospects at TRIUMF-ISAC and the ReA3 facility at NSCL/FRIB.

PHY Seminar