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The Depth of a Neutron Star Crust

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The Depth of a Neutron Star Crust

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Neutron stars are a valuable asset to modern nuclear astrophysics in that they provide a unique environment to study matter under extreme conditions. Much of the observational data obtained from neutron stars contains information about the structure and dynamics of the crust. Using such observations to measure crust properties requires understanding the uncertainty range from models of the thickness of the different layers of the crust. These uncertainties arise from uncertainties in the properties of nuclear matter. My poster will show how I examined the correlations between the crust thickness and nuclear matter parameters. I will compare the results of a number of different ways to calculate the crust thickness, and use them to estimate the uncertainty in estimates of crust oscillation frequencies and the crust cooling time.

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