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Cheerio-Cheerio Interactions in a Milk Matrix

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Poster Presentation 26

CHEERIO-CHEERIO INTERACTIONS IN A MILK MATRIX

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The presence of an intervening medium can create or alter interactions between suspended objects. Super conducting metals are a perfect example of this type of behavior on the nanoscopic scale. The crystal lattice of the metal vibrates in such a way that a net attraction between electrons is created. Outside of the medium, these electrons would repel one another. This project studied a macroscopic model system consisting of two cheerios floating in milk. An interaction between cheerios in milk was well known to cereal eaters. Outside the milk, the cheerios experience no significant attraction. Attempts to determine the length scale of the cheerio-cheerio interaction were made, as well as attempts to describe how the interaction varies with distance. Theoretical explanations were found for the attractive interaction as well as torques on individual cheerios observed during the experiment.