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Fluctuation-induced forces between inclusions in a fluid membrane under tension HSIANG-KU LIN, ROYA ZANDI, LEONID P. PRYADKO, Department of Physics and Astronomy, University of California at Riverside — We discuss the fluctuation-induced force, a finite-temperature analog of the Casimir force, between two inclusions embedded in a fluid membrane under tension. We suggest a method to calculate this Casimir interaction in the most general case, where membrane fluctuations are governed by the combined action of surface tension, bending modulus, and Gaussian rigidity. We find that the surface tension strongly modifies the power law in the separation dependence of the Casimir interaction. Furthermore, the method allows us to calculate the Casimir force both at short and large separations.

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