

Abstract Submitted  
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**Normal-Insulator-Superconductor van der Waals tunnel junctions** TOM DVIR, Hebrew University of Jerusalem, FREEK MASSE, Universit Paris-Sud, LOTAN ATTIAS, MAXIM KHODAS, Hebrew University of Jerusalem, MARCO APRILI, CHARIS QUAY HUEI LI, Universit Paris-Sud, HADAR STEINBERG, Hebrew University of Jerusalem — The ability to stack multiple layers of van der Waals materials has given rise in the recent years to a large variety of heterostructures. We present a Normal - Insulator - Superconductor tunnel junction fabricated in this method. By using NbSe<sub>2</sub> as the target superconductor we observe a hard gap in the density of states, which agrees with the model of a two gap superconductor. Under the application of perpendicular and parallel magnetic fields, we observe the evolution of the density of states, both below and above the critical field for penetration of vortices ( $H_{c1}$ ). We propose that van der Waals tunnel junctions can be further implemented to the study of other exotic states of matter.

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