Berliner Physikalisches Kolloquium

im Magnus-Haus, Am Kupfergraben 7, 10117 Berlin

Eine gemeinsame Veranstaltung der Physikalischen Gesellschaft zu Berlin e. V.,
Regionalverband Berlin/Brandenburg der Deutschen Physikalischen Gesellschaft e. V.,
der Freien Universität Berlin, der Humboldt-Universität zu Berlin,
der Technischen Universität Berlin und der Universität Potsdam

– gefördert durch die Wilhelm und Else Heraeus-Stiftung –

Am Donnerstag, dem **7. April 2022, um 18:30 Uhr**

spricht

Dr. Sebastian Reparaz
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über das Thema

„An overview of second sound in solid materials“

Moderation: Markus Wagner, Technische Universität Berlin

The study of wave-like heat transport in solids (or second sound) received considerable research attention in the 1960s. Surprisingly, its observation remained exclusive for few materials (e.g., solid He, Bi, and NaF) and for the lower temperature range (T < 15 K) for almost 50 years. Recently, its successful observation at higher temperatures (T > 100 K) in graphite and germanium triggered renewed interest in the field. Developing a clear path to control and exploit such thermal propagation regime has the potential to redefine the strategies to control heat propagation more efficiently. In this talk I will give an overview of the evolution of the field since its discovery in solid materials, with special focus on the latest discoveries. In particular, I will discuss the observation of two different flavors of second sound (*drifting* and *high-frequency* second sound), which are found in different experimental conditions. I will discuss the different experimental approaches used for its observation, as well as the theoretical framework used to address its origin and predict its propagation velocity and relaxation time.