

Cold chemistry with cold molecules

Edvardas Narevicius*¹

1. Department of Chemical Physics, Weizmann Institute of Science, Rehovot 76100, Israel

We will discuss our efforts towards reaching ultra-cold temperatures with trapped molecules where molecular beams carrying both cold molecules and atoms have been decelerated and trapped in a permanent magnetic trap. I will present our plans and prospects of further cooling via evaporation or sympathetic collisions. In the second part of my talk we will focus on cold collisions with cold molecular partners that have been magnetically merged in order to reach collisions temperatures of ~ 10 mK. I will show that quantum phenomena dominates collisions in this cold regime and discuss the importance of molecular degrees of freedom on cold reactions.

*Corresponding author: edvardas.narevicius@weizmann.ac.il