1148-53-215 **Jeremy T Tyson*** (tyson@illinois.edu) and **Jing Wang** (jingwang@purdue.edu). *Heat content in the Heisenberg group, part 1.*

I will discuss joint work with Jing Wang on short-time asymptotics for the total heat content of a smoothly bounded domain with noncharacteristic boundary in the first Heisenberg group. Our asymptotic expansion of the total heat content involves standard sub-Riemannian notions of horizontal perimeter and horizontal mean curvature. The proofs rely on an explicit description of tubular Carnot-Carathéodory neighborhoods of surfaces (Arcozzi-Ferrari, 2007-2008; Ritoré, 2017). These results generalize prior work in the Riemannian setting by van den Berg, Gilkey and Le Gall. This is part 1 of a two-part talk. (Received February 04, 2019)