1133-44-57 **Peter Kuchment*** (kuchment@math.tamu.edu), Mathematics Department, Texas A&M University, Ireland Str., TAMU 3368, College Station, TX 77843-3368, and **Fatma Terzioglu** (fatma@math.tamu.edu), Mathematics Department, Texas A&M Univ., Ireland Street, TAMU 3368, College Station, TX 77843-3368. *Mathematics of Compton camera imaging.*

Compton γ -cameras are used for medical (emission) imaging, as well as for astronomy and homeland security applications. Mathematically (although not in terms of the underlying physics) similar neutron detectors are also being developed for homeland security. The talk will survey the mathematics related to such applications. Namely, the so called cone transform and its properties and inversion. (Received July 06, 2017)