1046-94-1796   **Robert Ghrist*** (`ghrist@math.upenn.edu`), 200 S. 33rd St., Philadelphia, PA 19104, and **Yuliy Baryshnikov**. *Topological sensing: doing more with less in sensor networks via topological data.*

One strategy for dealing with ever-increasing floods of data is to throw most of it away. The typical impulse in engineering and science is to perform expensive and data-intensive state estimation, with the goal of eliminating as much uncertainty as possible. This talk will argue for a minimalist approach, using small quantity or low-quality information to perform tasks robustly. The key mathematics tools are topological, in order to maintain robust, global features of data.

The general principle of minimalism will be specified in the context of sensor networks and data associated to spatially distributed systems. (Received September 16, 2008)