1117-52-421   **Joseph Anderson**, **Navin Goyal**, **Anupama Nandi** and **Luis Rademacher***
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The centroid body: algorithms and statistical estimation for heavy-tailed distributions.

Independent component analysis (ICA) is the problem of efficiently recovering a matrix A in $\mathbb{R}^{n \times n}$ from i.i.d. observations of $X = AS$ where $S \in \mathbb{R}^n$ is a random vector with independent coordinates. All existing efficient algorithms with provable guarantees require that the coordinates of S have finite fourth moments. We give a provably efficient algorithm that works under the assumption that for constant γ, each S_i has finite $(1+\gamma)$-moment. Our techniques are based on a new application of the centroid body from convex geometry. (Received January 18, 2016)