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Sinai Robins* (srobins@math.temple.edu), 530 south 2'nd street, apt. 718, Philadelphia, PA 19147, and **Helaman Ferguson**. *Using new differentiable Dedekind sums to solve integer linear programming problems*. Preliminary report.

We define a new class of differentiable Dedekind sums, associated to rational polytopes in R^n , that allow us to locate integer points in rational polytopes (as opposed to simple enumeration). This is joint work with Helaman Ferguson. (Received February 22, 2005)