ION FUNNEL DEVICE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional Application Serial No. 62/010,036, filed June10, 2014, titled "RECTANGULAR ION FUNNEL," and to U.S. Application Serial No. 14/733,517, filed June 8, 2015, titled "ION FUNNEL DEVICE" hereby incorporated by reference in its entirety for all of their teachings.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] This invention was made with Government support under Contract DE-AC0576RL01830 awarded by the U.S. Department of Energy. The Government has certain rights in the invention.

TECHNICAL FIELD

[0003] This invention relates to ion funnels. More specifically, this invention relates to an ion funnel device wherein a first pair of electrodes and a second pair of electrodes are positioned in different directions.

BACKGROUND

[0004] The ion funnel has become a well-established interface for enabling the manipulation and focusing of ions between an ion source at the entrance of the ion funnel and an ion mobility or other ion manipulation device at the exit of the ion funnel. Current ion funnel interfaces, which have circular ring electrodes with a focusing lens at the exit, as