

**RF waveguide plasma for water purification (Ramot)****code:** 6-2013-632[Reuven Lev Boxman](#), T.A.U Tel Aviv University, Engineering, School of Electrical Engineering

A system for plasma treatment of a liquid and corresponding uses thereof, the system comprising a chamber having a liquid input conduit and a liquid output conduit, a source of electromagnetic radiation of wavelength  $\lambda$  coupled to the chamber by a waveguide of appropriate width to provide only fundamental mode of the electromagnetic radiation, a focusing means positioned between the waveguide and the chamber for transmissively focusing the electromagnetic radiation incident thereon to a location within the chamber remote from walls of chamber for creating a plasma at the location, characterized in that the plasma is formed entirely within the liquid.

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