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**Tvrtko Tadić\*** ([tvrtko@math.hr](mailto:tvrtko@math.hr)), Department of Mathematics, University of Zagreb, Bijenicka cesta 30, 10000 Zagreb, Croatia. *Can one make a laser out of cardboard?*

We consider two dimensional and three dimensional semi-infinite tubes made of “Lambertian” material, so that the distribution of the direction of a reflected light ray has the density proportional to the cosine of the angle with the normal vector. If the light source is far away from the opening of the tube then the exiting rays are (approximately) collimated in two dimensions but are not collimated in three dimensions. An observer looking into the three dimensional tube will see “infinitely bright” spot at the center of vision. In other words, in three dimensions, the light brightness grows to infinity near the center as the light source moves away. (Joint work with Krzysztof Burdzy.) (Received August 30, 2015)