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Geometrical Optics of Dense Aerosols[1] MICHAEL J. HAY, ERNEST J. VALEO, NATHANIEL J. FISCH, Princeton Plasma Physics Laboratory — Dense aerosols might be focused in such a way that a planar sheet of material is created, which could be ionized to form a free-standing sheet of moderately high-density plasma. Such a sheet of plasma might be useful for its optical properties, possibly as a lens or as an amplifier, since free access is available normal to the plane. We simulate dense aerosol formation under such aerodynamic focusing. The simulations include momentum coupling between the carrier gas and the particles' virtual flow field. The linear focusing problem elucidates the presence of aberrations in aerodynamic lenses designed for dense aerosols.

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