A DEMONSTRATION ONE-PAGE CONTRIBUTION FOR THE REVMEXAA CONFERENCE SERIES

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This document (`rm-onepage.tex`—last updated 2007 Sep 9) can serve as a template for the preparation of one-page conference proceedings contributions with the `rmaa` LaTeX macros. Note that the standard abstract environment is *not* used and there is no Spanish resumen.

Given that you only have one page, you probably don't want to waste space with frivolities such as section headings.

The general structure of the flow variables along the symmetry axis of the bowshock shell is illustrated schematically in Figure 1. The approximately isothermal proplyd flow accelerates from the sound speed up to a Mach number $\mathcal{M}_0$ at the position of the shock. If the number density and temperature immediately before the shock are N_0, T_0, then the Rankine-Hugoniot conditions give the values immediately after the shock to be (Bally et al. 1998):

$$\mathcal{M}_1 = \left(\frac{\mathcal{M}_0^2 + 3}{5\mathcal{M}_0^2 - 1}\right)^{1/2}, \tag{1}$$

$$N_1 = \frac{4}{1 + 3\mathcal{M}_0^{-2}} N_0, \tag{2}$$

$$T_1 = \frac{1}{16}\left(5\mathcal{M}_0^2 - 1\right)\left(1 + 3\mathcal{M}_0^{-2}\right) T_0. \tag{3}$$

For instance, using $\mathcal{M}_0 = \mathcal{M}_A = 2.7$ from equation (99), one obtains $\mathcal{M}_1 = 0.54$, $N_1 = 2.83 N_0 = 5.77 \times 10^4\,\mathrm{cm^{-3}}$, $T_1 = 3.13 T_0 = 30,500\,\mathrm{K}$, so that the density and temperature jump across the shock are both roughly a factor of 3.

The emission from the cooling zone behind the shock can be crudely approximated as the emission from a homogeneous layer with density N_1 and temperature T_1 and with a width equal to the cooling time $t_{\mathrm{cool}} = 3kT_1/(N_1\Lambda_1)$ multiplied by the immediate post-shock velocity $v_1 = \mathcal{M}_1 (T_1/T_0)^{1/2} c_0 \simeq 11.5\,\mathrm{km\,s^{-1}}$. In order to estimate the cooling coefficient Λ_1 in the cooling zone I calculated another Cloudy model, identical to that mentioned by García-Arredondo et al. (2001) except that the electron temperature was artificially maintained at $T_e = T_1$. The result was $\Lambda_1 = 4.46 \times 10^{-23}\,\mathrm{erg\,cm^3\,s^{-1}}$, giving a cooling time $t_{\mathrm{cool}} = 4.9 \times 10^6\,\mathrm{s}$ and a cooling zone thickness $h_{\mathrm{cool}} = 5.64 \times 10^{12}\,\mathrm{cm}$. Although the O III optical lines are still significant coolants in the cooling zone (20% of total), they are now supplanted in importance by the C III NUV (28%) and FUV (26%) lines.

...and that is all there is room for.

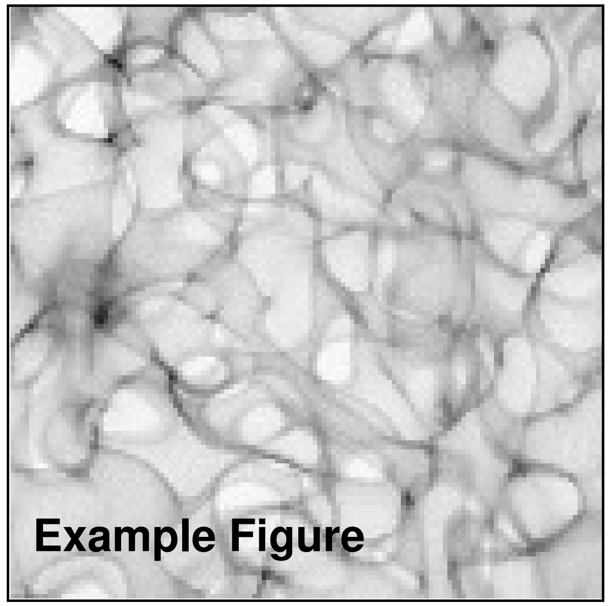

Fig. 1. Example of a simple single-column figure. Don't put this too early in the document since we don't want it to go in the first column.

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