$v = \frac{4}{5}c$; $\gamma = \frac{5}{3}$

$1 - 4/5 = 1/5$.

Comprobación prob ①

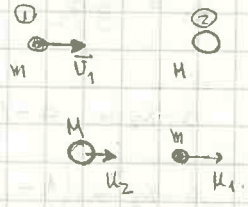
Evento A – $t' = t = 0$ salida del pulso $x'_A = x_A = 0$

Evento B – $x_B = d$ llegada del pulso al espejo

Evento C – llegada del pulso al cohete $x'_C = 0$

$$\left.\begin{aligned} x'_C &= \gamma(x_C - v t_C) = 0 \rightarrow x_C = v t_C \\ x_C &= \gamma(x'_C + v t'_C) \rightarrow x_C = \gamma v t'_C \end{aligned}\right\} \quad t_C = \gamma t'_C = \frac{5}{3} \times \frac{2}{3}\frac{d}{c} = \frac{10}{9}\frac{d}{c}$$

Choque prob. ③ $\quad m(v)\,v_1 = M(u_2)\,u_2 + m(u)\,u_1$.



$$\left.\begin{aligned} E_2 &= M_0^2c^4 + p_2^2c^2 \\ E_1 &= m_0^2c^4 + p_1^2c^2 \end{aligned}\right\rangle \quad \begin{aligned} E^2(A) &= (M_0^2 + m_0^2)c^4 + m^2(v)\,v_1^2c^2 \\ E^2(D) &= (M_0^2 + m_0^2)c^4 + (m^2(v)\,u_1^2 + M^2(u_2)\,u_2^2)c^2 \end{aligned}$$

$E_{1A} - E_{1D} = 2\,\text{MeV} \neq E_{1A}^2 - E_{1D}^2$