Skeleton Hamiltonian for 2 black holes

equations satisfied by $\Psi_1 \equiv \Psi_{x=x_1}$ and Ψ_2
deduced from the linear independence of the δ_A's

$$\Psi_1 = 1 + \frac{Gm_2}{2r_{12}c^2\Psi_2}\left(1 + \frac{p_2^2}{m_2^2c^2\Psi_2^4}\right)^{\frac{1}{2}} + \frac{Gp_{2i}V_{2i}}{2r_{12}c^3\Psi_2^7}$$

$$\Psi_2 = 1 + \frac{Gm_1}{2r_{12}c^2\Psi_1}\left(1 + \frac{p_1^2}{m_1^2c^2\Psi_1^4}\right)^{\frac{1}{2}} + \frac{Gp_{1i}V_{1i}}{2r_{12}c^3\Psi_1^7}$$

where $\Psi_1 = 1 + \dfrac{G\alpha_2}{2r_{12}c^2}$ and $r_{12} = |x_1 - x_2|$

$$H = -\frac{c^4}{2\pi G}\int d^3x\, \Delta\Psi = c^2(\alpha_1 + \alpha_2)$$