Wormhole Metrics

1) $ds^2 = -c^2dt^2 + dl^2 + (k^2 + l^2)(d\theta^2 + \sin^2\theta\, d\phi^2)$

Re Schwarzschild is a non-traversable wormhole metric.

Alcubierre Metric (1994)

$$ds^2 = -(\alpha^2 - \beta_i \beta^i)dt^2 + 2\beta_i dx^i dt + \gamma_{ij} dx^i dx^j$$

which is represented as:

$$ds^2 = dx^2 + dy^2 + dz^2 - 2v_s(t) f(r_s(t)) dx\, dt + (v_s(t)^2 f(r_s(t))^2 - 1) dt^2$$

where: $v_s(t) = \dfrac{dx_s(t)}{dt}$,

$$r_s(t) = \left((x - x_s(t))^2 + y^2 + z^2\right)^{1/2}$$

Choices of $f(r_s(t))$ give "warp-drive" effects and so on.