Table 1b, Charge and Current Densities for the Metrics of Table 1a.

Metric	Charge and Current Densities
Minkowski	$J^0 = 0, \quad J_r = 0, \quad J_\theta = 0, \quad J_\phi = 0$
Schwarzschild	$J^0 = 0, \quad J_r = 0, \quad J_\theta = 0, \quad J_\phi = 0$
Gödel	$J^0 = 0, \quad J_r = 0, \quad J_\theta = 0, \quad J_\phi = 0$
Kasner	$J^0 = 0, \quad J_r = 0, \quad J_\theta = 0, \quad J_\phi = 0$
Crothers Type O_{ho}	$J^0 = 0, \quad J_r = 0, \quad J_\theta = 0, \quad J_\phi = 0$
Crothers / Original Minkowski	$J^0 = 0, \quad J_r = 0, \quad J_\theta = 0, \quad J_\phi = 0$
Crothers / Minkowski	$J^0 = 0, \quad J_r = 0, \quad J_\theta = 0, \quad J_\phi = 0$
FLRW	$J^0 = -3\phi \dfrac{\ddot{a}}{a} = 4\pi \phi G(\rho + 3p)$, $J_r = -\dfrac{A^{(0)}}{\mu_0}\left(\dfrac{2}{a^4}(k + \ddot{a}^2)(kr^2 - 1) + \dfrac{\ddot{a}}{a^3}(kr^2 - 1)\right)$, $J_\theta = \sin^2\theta \, J_\phi = \dfrac{A^{(0)}}{\mu_0}\left(\dfrac{2}{a^4 r^2}(k + \ddot{a}^2) + \dfrac{\ddot{a}}{a^3 r^2}\right)$.
Crothers General	$J^0 = -\dfrac{\ddot{C}}{4ABC^2}\phi$, $J_r = -\dfrac{A^{(0)}}{\mu_0}\left(\dfrac{5C\ddot{C} - 4\dot{C}^2}{4B^2C^3}\right)$, $J_\theta = \dfrac{A^{(0)}}{\mu_0}\left(\dfrac{2BC^{1/2} - \ddot{C}}{2BC^{5/2}}\right)$, $J_\phi = \dfrac{J_\theta}{\sin^2\theta}$, where $\ddot{C} = \dfrac{d^2C}{dr^2}, \quad \dot{C} = \dfrac{dC}{dr}$.

Table 1b Continued.

Crothers with Defined $c(r)$	Here $c(r) = \left(\lvert r - r_0 \rvert^n + \alpha^n\right)^{2/n}$. In the Finite charge and current densities. In the special case: $r_0 = 0, \ \alpha = 0$ the following are obtained. $J^0 = -\frac{\phi}{2r^4 AB}$, $J_r = \frac{A^{(0)}}{\mu_0} \cdot \frac{3}{2r^4 B^2}$, $J_\theta = \sin^2\theta . J_\phi = \frac{A^{(0)}}{\mu_0}\left(\frac{r^2 B - \lvert r \rvert}{r^6 B}\right)$
Static de Sitter	$J^0 = -\frac{3\phi}{r^2 - \alpha^2}$, $J_r = -\frac{A^{(0)}}{\mu_0}\left(\frac{3r^2 - 3\alpha^2}{\alpha^4}\right)$, $J_\theta = \sin^2\theta . J_\phi = \frac{A^{(0)}}{\mu_0} \cdot \frac{3}{\alpha^2 r^2}$
Wormhole Metric	$ds^2 = -c^2 dt^2 + dr^2 + (\ell^2 + k^2)(d\theta^2 + \sin^2\theta \, d\phi^2)$. Here: $J^0 = 0$, $J_r = -\frac{A^{(0)}}{\mu_0}\left(\frac{2k^2}{(\ell^2 + k^2)^2}\right)$, $J_\theta = J_\phi = 0$.
Alcubierre, Kerr and Charged Kerr	Here $R \wedge q \neq 0$ (?) so these metrics do not correctly obey the Ricci cyclic equation, usually known as the first Bianchi identity.

Table 1b Continued

General Spherical Metric

$$ds^2 = -c^2 dt^2 e^{2\alpha} + e^{2\beta} dr^2 + d\theta^2 + \sin^2\theta \, d\phi^2,$$

Here:

$$J^0 = \phi \Bigg(e^{-2\beta - 4\alpha} \bigg(\Big(e^{2\beta} \frac{d^2\beta}{dt^2} \Big) + e^{2\beta} \Big(\frac{d\beta}{dt} \Big)^2 - \frac{d\alpha}{dt} e^{2\beta} \frac{d\beta}{dt} + e^{2\alpha} \frac{d\alpha}{dr} \frac{d\beta}{dr} - e^{2\alpha} \frac{d^2\alpha}{dr^2} \Big) r - 2 e^{2\alpha} \frac{d\alpha}{dr} \bigg) \Bigg) / r,$$

$$J_r = \frac{A^{(0)}}{\mu_0} \Bigg(e^{-4\beta - 2\alpha} \bigg(\Big(e^{2\beta} \frac{d^2\beta}{dt^2} + e^{2\beta} \Big(\frac{d\beta}{dt} \Big)^2 - \frac{d\alpha}{dt} e^{2\beta} \frac{d\beta}{dt} + e^{2\alpha} \frac{d\alpha}{dr} \frac{d\beta}{dr} - e^{2\alpha} \frac{d^2\alpha}{dr^2} - e^{2\alpha} \Big(\frac{d\alpha}{dr} \Big)^2 \Big) r + 2 e^{2\alpha} \frac{d\beta}{dr} \bigg) \Bigg) / r,$$

$$J_\theta = J_\phi \sin^2\theta = \frac{A^{(0)}}{\mu_0} \frac{1}{r^4} e^{-2\beta} \bigg(\Big(\frac{d\beta}{dr} - \frac{d\alpha}{dr} \Big) r + e^{2\beta} - 1 \bigg).$$

The charge and current densities are **non-zero** in general.