Errata

Erratum: Energy-momentum conservation in gravity theories [Phys. Rev. D 49, 5173 (1994)]

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In this paper we presented energy-momentum pseudotensors $\Theta^{\mu\nu}$ for gravitational theories in various dimensionalities. In four dimensions, we used Noether's theorem together with the Belinfante symmetrization procedure and derived an expression that differs from textbook formulas, which are obtained by manipulating the Einstein field equation, rather than by Noether's variational method. We have now seen a report [1] where reference is made to work by Papapetrou [2]. Upon studying that paper we have ascertained that Papapetrou had gotten the same expression by the same method half a century before us:

$$\Theta^{\mu\nu} = \frac{c^4}{16\pi k}\partial_\alpha\partial_\beta\Theta^{\mu\nu\alpha\beta} ,$$

$$\Theta^{\mu\nu\alpha\beta} = \eta^{\mu\nu}\mathfrak{g}^{\alpha\beta} - \eta^{\alpha\nu}\mathfrak{g}^{\mu\beta} + \eta^{\alpha\beta}g^{\mu\nu} - \eta^{\mu\beta}\mathfrak{g}^{\alpha\nu} ,$$

$$\mathfrak{g}^{\alpha\beta} \equiv \sqrt{-g}g^{\alpha\beta} , \quad \eta^{\mu\nu} \equiv \mathrm{diag}(1,-1,-1,-1) .$$

Papapetrou further observed that in harmonic coordinates, where $\partial_\alpha\mathfrak{g}^{\alpha\beta} = 0$, $\Theta^{\mu\nu}$ takes on the remarkably simple expression $\Theta^{\mu\nu} = (c^4/16\pi k)\,\Box\,\mathfrak{g}^{\mu\nu}$ with $\Box$ being the flat-space d'Alembertian, $\Box = \eta^{\alpha\beta}\partial_\alpha\partial_\beta$.

We thank K. Virbhadra for making Ref. [1] available to us before its publication.

[1] J. M. Aguirregabiria, A. Chamorro, and K. S. Virbhadra, Univ. del País Vasco Report No. gr-qc/9501002 (unpublished).
[2] A. Papapetrou, Proc. R. Irish Acad. **A52**, 11 (1948); see also S. N. Gupta, Phys. Rev. **96**, 1683 (1954).

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Erratum: Global properties of static spherically symmetric charged dilaton spacetimes with a Liouville potential [Phys. Rev. D 50, 7260 (1994)]

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At the end of the second paragraph of Sec. V it is stated that: "The explicit solutions which approach K_1 from within the $W = 0$ subspace are found in Appendix B for arbitrary D and g_0. It is seen that all of these correspond to naked singularities." The second sentence is not correct and should be modified to read: It is seen that all of these correspond to naked singularities, except for a subclass of solutions of (B8)–(B10), with $A = 1$ and

$$k_2 = \mp(D-3)k_1/\left(D-3+g_0^2\right)^{1/2} .$$

One may readily verify that all the solutions other than (B8)–(B10), e.g., the cases with $\epsilon_1 = +1$ and $\epsilon_2 = 0,-1$, contain naked singularities. The solutions (B8)–(B10) approach the points $K_{1,2}$ asymptotically if $A = 1$, and $M_{1,2}$ otherwise. One may show that all of the $A = 1$ solutions correspond to naked singularities, except for the special

