

$$N_{\rho\sigma}(\lambda g^{\alpha\beta}) = \sum_{m>0} \lambda^m N_{(m)\rho\sigma}.$$

We carry out the integration in Eq. (12) and obtain

$$N_{\mu\nu} - \frac{1}{2}g_{\mu\nu} \sum_m (1+m)^{-1} g^{\rho\sigma} N_{(m)\rho\sigma} = 0. \quad (13)$$

For every order of λ^m we may rewrite $N_{(m)\mu\nu}$ in terms of its trace free part $\bar{N}_{(m)\mu\nu}$ and its trace to transform Eq. (13) into

$$\bar{N}_{(m)\mu\nu} + (1/n)g_{\mu\nu}N_{(m)} - \frac{1}{2}g_{\mu\nu}(m+1)^{-1}N_{(m)} = 0.$$

where $N_{(m)} = g^{\rho\sigma}N_{(m)\rho\sigma}$. This is equivalent to

$$\bar{N}_{\mu\nu} - g_{\mu\nu}[n - 2(m+1)][2n(m+1)]^{-1}N_{(m)} = 0.$$

Thus, we obtain from Eq. (9) trace-free equations of motion whenever $n - 2(m+1) = 0$. The stress-energy tensor for the electromagnetic field in four dimensions is the simplest example of a trace free term of this type (with $m = 1$).

H.F. Ahner and A.E. Moose, *J. Math. Phys.* **18**, 1367 (1977).
 R.W. Atherton and G.M. Homsy, *Stud. Appl. Math.* **54**, 31 (1975).
 We appreciate communications with D. Lovelock, R. Pavelle, I. Anderson, G. Horndeski, and S. Aldersley. They pointed out an error in Ref. 1. The word "equation" should be replaced by the words "scalar equation" in the sentence following Eq. (24). For a tensor equation the potential conditions may be satisfied when the field operators are of odd order. A considerable body of work exists that we were unaware of in which results similar to ours were derived by other methods. Some of the most pertinent references include: D. Lovelock and H. Rund, *Tensors, Differential Forms and Variational Principles* (Wiley, New York, 1975), Chap. 8 and references therein; G. W. Horndeski, *Tensor* **28**, 309 (1974); **29**, 21 (1975); G. W. Horndeski, *J. Math. Phys.* **17**, 1980 (1976); D. Lovelock, *J. Math. Phys.* **18**, 1491 (1977); I.M. Anderson, "Tensorial Euler-Lagrange Expressions and Conservation Laws" to appear in *Aequationes Mathematicae*. For flat space considerations see also R.M. Santilli, *Ann. Phys. N.Y.* **103**, 354 (1977); **103**, 409 (1977); **105**, 227 (1977). For treatment of antiderivatives, of variational principles that yield integral equations, and of definitional questions, see E.P. Hamilton (to appear in *J. Math. Anal. Appl.*); E.P. Hamilton and B.E. Goodwin, in *Analytic Methods in Mathematical Physics*, edited by R.P. Gilbert and R.G. Newton (Gordon and Breach, New York, 1970); E.P. Hamilton, "A New Definition of Variational Derivative" (preprint).

*Expression (1) fails also when (1) is identically zero.

*Some $m = -1$ cases are considered in S.J. Aldersley, "Higher Euler Operators and Some of their Applications" (to appear in *J. Math. Phys.*).

ERRATA

Erratum: The electromagnetic field on a simplicial net [*J. Math. Phys.* **16**, 2432 (1975)]

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P. 2432: A "1" and an "n" have been transposed in Eq. (5), which should read

$$\langle \mathbf{e}^j, \mathbf{e}_k \rangle = \tilde{\delta}_k^j \equiv \delta_k^j - \frac{1}{n+1} = \begin{cases} \frac{n}{n+1} & \text{if } j = k, \\ \frac{-1}{n+1} & \text{if } j \neq k. \end{cases}$$

P. 2433 (line 14): In place of "... its affine components $T_i^{j \dots k}$ " read "... its affine components $\tilde{T}_i^{j \dots k}$."

The same change should be made in Eq. (9) and Eq. (10) [but the "T" on the lhs of (9) should be left as it is].

P. 2435 (line 19): In place of "... since $e_{k_0} e_{k_0} = 0$, and ..." read "... since $e_{k_0} \wedge e_{k_0} = 0$, and ...".