Erratum: Field theories and fluids for an interacting dark sector **[Phys. Rev. D 97, 043508 (2018)]**

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Throughout Sec. III, the scalar dark matter potential $V(\chi)$ should be denoted $U(\chi)$. Equations (3.4) and (3.6) should read¹

$$\nabla_a \nabla^a \chi - e^{2\alpha(\phi)} V'(\chi) = -2\alpha'(\phi) \nabla_\mu \phi \nabla^\mu \chi, \quad Q^\nu = -\alpha'(\phi) e^{2\alpha(\phi)} \nabla^\nu \phi ((\nabla \chi)^2 + 4e^{2\alpha(\phi)} V(\chi)),$$

respectively. Meanwhile, Equations (3.8) and (3.9) should be

$$\ddot{\phi} + 3H\dot{\phi} + V'(\phi) = -\alpha'(\phi)(\rho_\chi - 3P_\chi), \quad \ddot{\chi} + 3H\dot{\chi} + e^{2\alpha(\phi)} U'(\chi) = -2\alpha'(\phi) \dot{\phi} \dot{\chi},$$

this in turn changes Eq. (3.12) to

$$Q = \alpha'(\phi) \dot{\phi} (\rho_\chi - 3P_\chi),$$

giving $\xi = \alpha'(\phi) \dot{\phi} / H$. Equations (3.13) and (3.14) should read

$$\left\langle \frac{1}{2} \dot{\chi}^2 \right\rangle = \langle e^{2\alpha(\phi)} U(\chi) \rangle, \quad \dot{\rho}_\chi + 3H\rho_\chi = \alpha' \dot{\phi} \rho_\chi = Q,$$

with the dark matter density obeying $\rho_\chi \propto e^{\alpha(\phi)} a^{-3}$. While these changes modify the equations of motion, we have verified that the correct versions were used when solving numerically in Fig. 1.

In Sec. IV, X should be defined with a minus sign as

$$X = -\frac{1}{2} e^{-2\alpha(\phi)} \nabla_\mu \chi \nabla^\mu \chi.$$

Equations (4.5) and (4.9) should read

$$\dot{\rho}_\chi + 3H(\rho_\chi + P_\chi) = \alpha' \dot{\phi} (\rho_\chi - 3P_\chi), \quad \dot{\rho}_\chi + 3H\rho_\chi = \alpha' \dot{\phi} \rho_\chi.$$

¹We are grateful to Joseph P J for pointing this out.