Non-Abelian S-term dark energy and inflation

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We study the role that a cosmic triad in the generalized $SU(2)$ Proca theory, specifically in one of the pieces of the Lagrangian that involves the symmetric version $S_{\mu\nu}$ of the gauge field strength tensor $F_{\mu\nu}$, has on dark energy and primordial inflation. Regarding dark energy, the triad behaves asymptotically as a couple of radiation perfect fluids whose energy densities are negative for the S term but positive for the Yang-Mills term. This leads to an interesting dynamical fine-tuning mechanism that gives rise to a combined equation of state parameter $\omega \simeq -1$ and, therefore, to an eternal period of accelerated isotropic expansion for an ample spectrum of initial conditions. Regarding primordial inflation, one of the critical points of the associated dynamical system can describe a prolonged period of isotropic slow-roll inflation sustained by the S term. This period ends up when the Yang-Mills term dominates the energy density leading to the radiation dominated epoch. The whole model, including the other pieces of the Lagrangian that involve $S_{\mu\nu}$, might evade the recent strong constraints coming from the gravitational wave signal GW170817 and its electromagnetic counterpart GRB 170817A.