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A fragment of Asperó-Mota's Finitely Proper Forcing Axiom and an entangled set of reals

We introduce a fragment $\text{PFA}^{\text{s-fin}}(\omega_1)$ of Asperó-Mota's finitely proper forcing axiom $\text{PFA}^{\text{fin}}(\omega_1)$. $\text{PFA}^{\text{s-fin}}(\omega_1)$ implies some consequences of $\text{PFA}^{\text{fin}}(\omega_1)$, for example MA_{\aleph_1} , the failure of \mathcal{U} , no weak club guessing ladder systems, and the assertion that every two Aronszajn trees are club-isomorphic. For each integer $k \geq 2$, it is consistent that $\text{PFA}^{\text{s-fin}}(\omega_1)$ holds, there exists a k -entangled set of reals, and $2^{\aleph_0} = \aleph_2$. This extends Abraham-Shelah's theorem that Martin's axiom does not imply that every two \aleph_1 -dense sets of reals are isomorphic.