Higgs implications for Dark matter mass

Understanding the origin of mass

We are still trying to understand most of the mass in the Universe: The Dark Matter Mass

For SUSY WIMPs (typical simple model):

$$m_{WIMP} \sim M_{SUSY} - const. \frac{m_Z^2}{M_{SUSY}}$$

EW symmetry breaking reduces WIMP mass

➔ Negative contribution to our understanding ;-)

Understanding the origin of mass

We are still trying to understand most of the mass in the Universe: The Dark Matter Mass

For axions:

$$m_{axion} \sim \frac{\sqrt{m_{quark}\Lambda_{QCD}}\Lambda_{QCD}}{M_{PQ}}$$

EW symmetry breaking essential for axion mass

+ All parts (in numerator) understood :-)