Heavy Dark Matter searches with LHAASO. Summary

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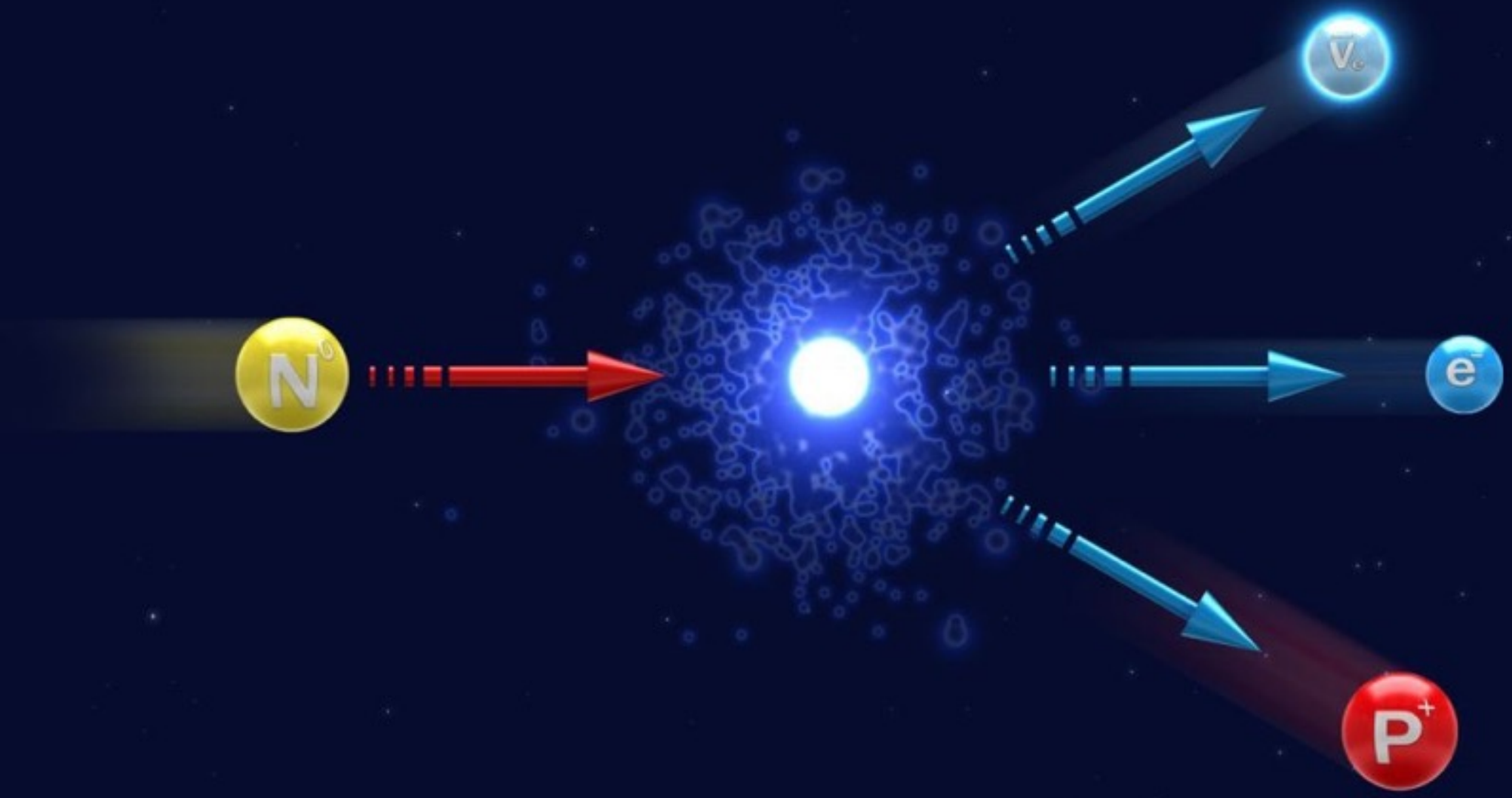
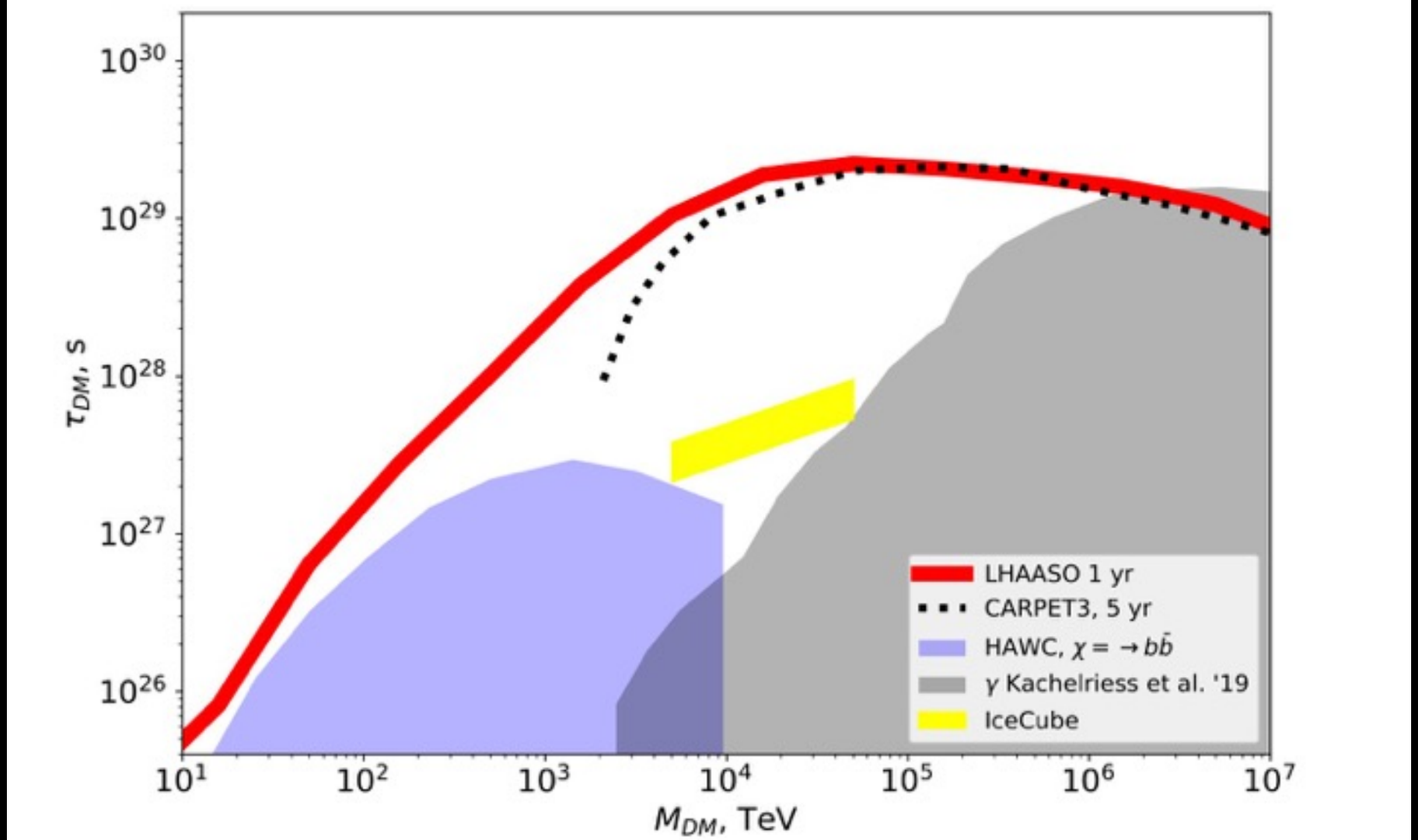
DM decays





Sensitivity of LHAASO for the measurement of dark matter decay time (for DM decaying into quarks). Yellow band shows the range of decay times for which DM decays give sizable contribution to the IceCube neutrino signal. Blue and gray shaded regions show the existing bounds imposed by HAWC and ultra-high-energy cosmic ray experiments. and dashed curves are from the HAWC search of the DM decay signal in the Fermi Bubble regions.

Conclusions

Heavy DM decays beyond electroweak WIMPs can be tested by LHAASO

Important from theoretical model building from symmetry principle or to test model of DM genesis in the early Universe

IceCube neutrino events can be compared with LHAASO gamma rays data. Multi-messenger DM searches