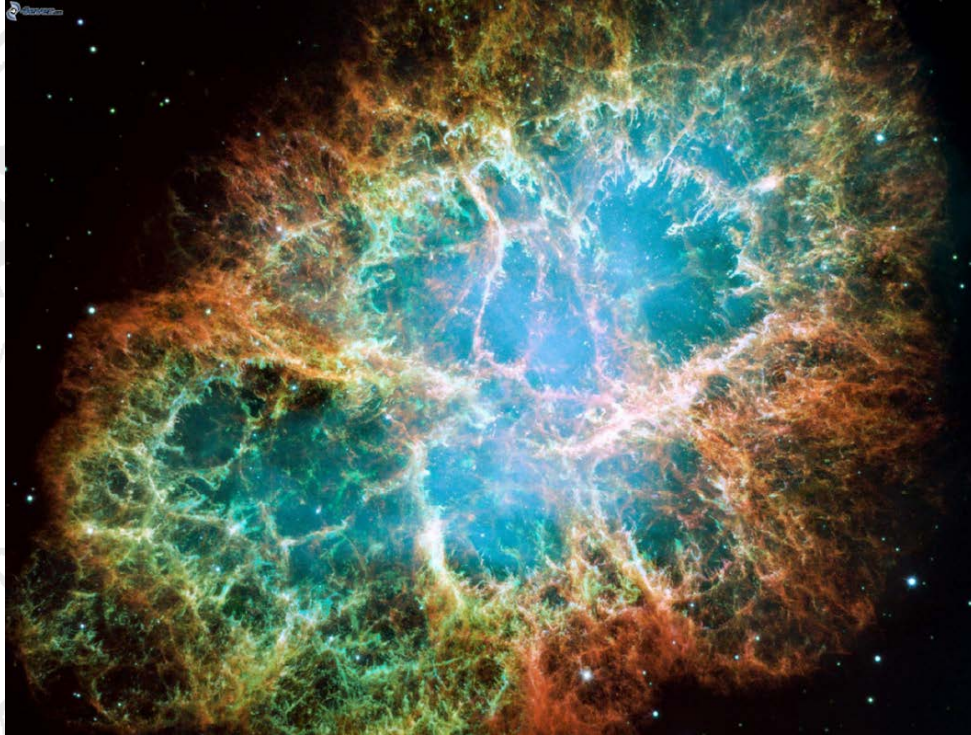


PHYSIKALISCHES KOLLOQUIUM

AM 14. JANUAR 2019 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



SUPERNOVA FOOTPRINT ON THE DOORSTEP

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In our galaxy explode in 100 years around 1 to 2 supernovae (SN). Hence chances are high that such a titanic event could have happened during the last 10 Million years close to our solar system, so to speak on our doorstep. The ejected debris of such a close SN should have entered our solar system, and then a fraction must have been deposited on our Earth or on the Moon. A clear signal is exposed by long-living radioisotopes which do not exist naturally on Earth; such as ^{60}Fe (with a half-life of 2.6 Million years). In this presentation I will explain the ultrasensitive detection method (ams, accelerator mass spectrometry) which has been used to detect ^{60}Fe . I will discuss the samples where we have found traces of this radioisotope; in dated deep ocean sediments and ferromanganese crusts, and also in lunar regolith, collected during the Apollo missions between 1969 and 1972. The revealed time slot where we found ^{60}Fe deposition, coincide with a drop in Earth's temperature before about 2 and 3 Million years, which induced major glaciations of the Earth. These glaciations are considered as the cause for the development and evolution of mankind. I will discuss possible correlations.