XMM OBSERVATIONS OF VELA-LIKE PULSARS AND THEIR NEBULAE

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X-ray emission from pulsars can be used to probe both thermal processes, such as neutron star cooling and the surrounding supernova blast wave, and also the non-thermal physics of a pulsar’s magnetosphere and relativistic wind. The "Vela-like" pulsars (ages 10-50 kyr) represent a transition between younger and older pulsars, and are the key to understanding the evolution of these various sources of X-ray emission. We present XMM observations of the Vela-like pulsars B1823-13 and B1046-58, the data from which can separate out the non-thermal and thermal contributions to their emission, and can thus place these energetic sources in the context of the neutron star population as a whole. This work has been supported by NASA through XMM Guest Observer grant NAG5-11376.