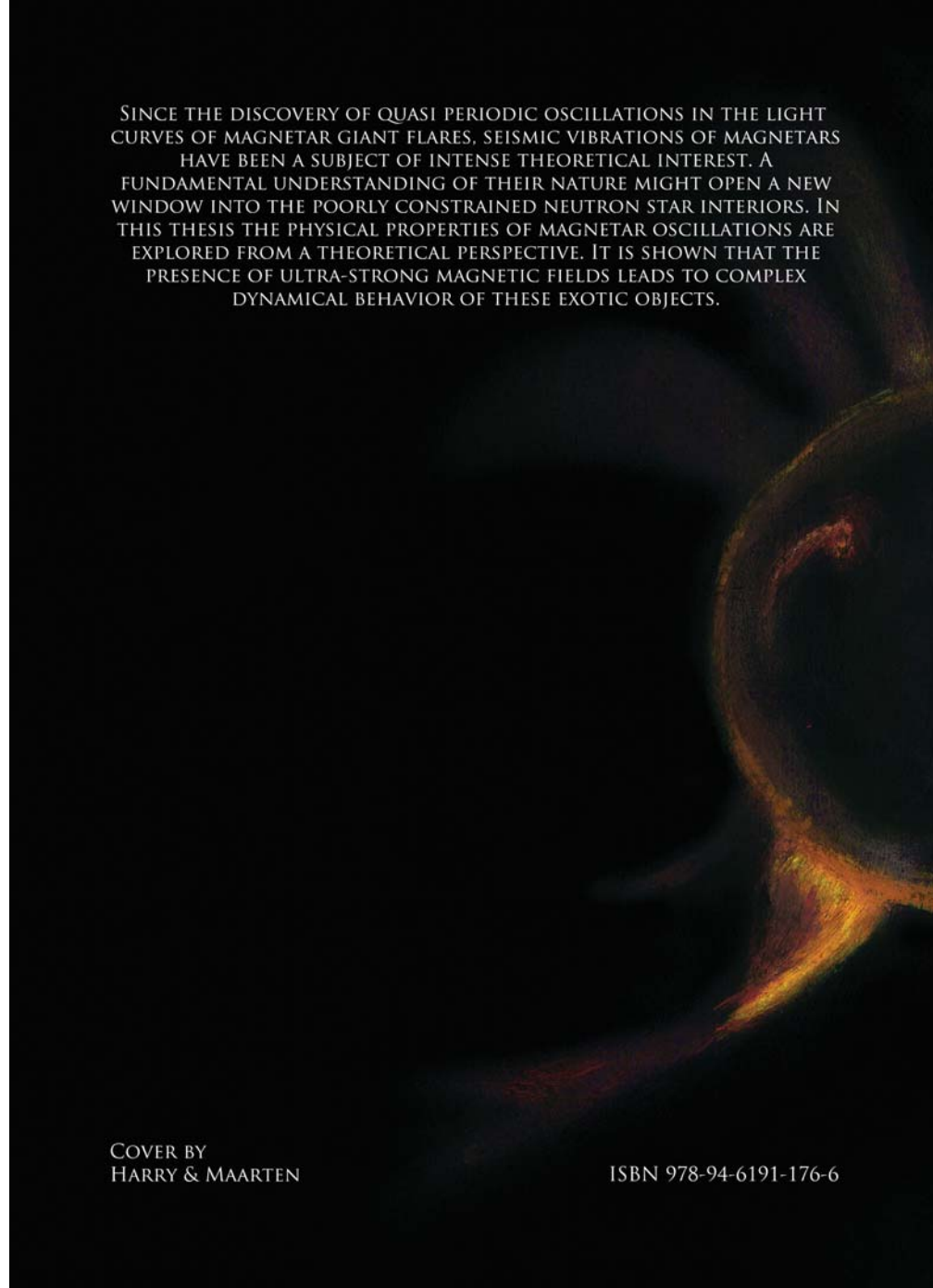


# SEISMOLOGY OF MAGNETARS



M.B. VAN HOVEN

SINCE THE DISCOVERY OF QUASI PERIODIC OSCILLATIONS IN THE LIGHT CURVES OF MAGNETAR GIANT FLARES, SEISMIC VIBRATIONS OF MAGNETARS HAVE BEEN A SUBJECT OF INTENSE THEORETICAL INTEREST. A FUNDAMENTAL UNDERSTANDING OF THEIR NATURE MIGHT OPEN A NEW WINDOW INTO THE POORLY CONSTRAINED NEUTRON STAR INTERIORS. IN THIS THESIS THE PHYSICAL PROPERTIES OF MAGNETAR OSCILLATIONS ARE EXPLORED FROM A THEORETICAL PERSPECTIVE. IT IS SHOWN THAT THE PRESENCE OF ULTRA-STRONG MAGNETIC FIELDS LEADS TO COMPLEX DYNAMICAL BEHAVIOR OF THESE EXOTIC OBJECTS.



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