

FREE VIBRATION MODES AND FREQUENCIES OF A PANTOGRAPH HEAD

There has been continuing interest over the last few years in the dynamics of overhead current collection equipment and the Engineering Applications Section has been active in the calculation of the response of the overhead line equipment and pantographs. As part of this work, a theoretical investigation has been carried out to find the undamped natural frequencies and mode shapes of a typical head arrangement using the structural analysis program NEWPAC. For this investigation details were obtained from the R&DD outstation at Rugby of a long travel AEI pantograph. This report gives details of the method of analysis and presents the results in the form of modal deflection plots.