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ABSTRACT The project ANTENA, acronym for A New TEcno logy Network for Asteroseismology, is a European Union Network formed by scientists of the "IAC" (Spain), the "Aarhus Universitet" (Denmark), the "Observatoire de Meudon" (France), the "UNSA" (France) and the "Observatoire de la Cote d'Azur" (France), interested in the seismic investigation of the stars. Scientist of other institutions (OMP, KO, SAO, STSci, BO, IAUNAM, IIA, etc) also collaborate in some aspects of the project.

INTRODUCTION

The prime objective of the investigations to be carried out under the frame of ANTENA is the measurement of the spectrum of acoustic and gravity modes (p and g modes) of stars whose interpretation provides unique clues to the understanding of their interior dynamics, physical structure and evolution. The project will develop and build instrumentation able to measure the vibration modes of stars and will try to interpret the results in terms of accurate modelling of their structures. Also updated observational strategies will be designed and used to take full advantage of the measurements. To do that, ANTENA counts on efficient manpower for both the observational and the theoretical aspects of the program.
Fig. 1. δ Scuti stars in the Praesepe cluster (Frolov and Irkaev 1982, Rodríguez et al 1994). The study of oscillating stars in stellar clusters offers an extraordinary opportunity for testing the Theory of Stellar Structure and Evolution (see Gilliland et al 1993). The figure includes a map of the Praesepe region, showing the location of 14 known δScuties, identified by their Variable Star Catalogue name and their magnitude. The 92 STEPHI campaign scanned the southern centre region of the cluster, including BN and BUCnc (Belmonte et al 1994). Future campaigns of STEPHI (1995 & 1996), included in the ANTENA project, will, hopefully, observe several other stars of the cluster.

The rapid multi-channel photometer, used in STEPHI (Belmonte et al 1993, see hereafter) will be updated and duplicated. This instrument can be used to perform seismic investigations of several kind of pulsators like δScuties, white dwarfs, βCepheis, roAp stars and any other kind of moderate amplitude (over 100 μmag) oscillating star. A Doppler Stellar Seismometer, hopefully useful for the study of solar-like low amplitude (~10 cm/s) oscillating stars, is the second instrument to be developed and built.
The already successful STEPHI (STEllar PHotometry International) network will run, at least, twice within the frame of ANTENA (hopefully with four sites), in order to provide a congruent set of several δ Scuti stars with known common properties, like the age or chemical composition, (see Fig. 1). The knowledge of a representative set of multi-periodic frequency spectra is required in order to improve the theory of stellar structure and evolution (see e.g. Goupil et al 1993, Pérez Hernández et al 1994).

On the other hand STACC, acronym for Small Telescope Array with CCD Cameras, is a younger network, involving more than 20 scientists of several countries all around the world (Frandsen 1992). Operated now within the frame of ANTENA, some preliminary observations have been done already on southern clusters (Frandsen et al 1994) and field stars (namely ABCas), providing quite promising results. However, we have noticed the urgent need of identifying suitably targets to plan future campaigns. On this, anyone interested with available telescope time would enormously help and any contribution is very welcome.

Another of the objectives of ANTENA is the organization of an Asteroseismological Database. A design of a technically feasible and easy maintenance archive is currently undertaken at UNSA. Additionly, it has been agreed that an Euroconference on Asteroseismology will be organized by mid 1996 at Nice under OCA’s leadership ANTENA is also related, through its P.I. and some of the head scientists, to some important space missions like EVRIS or the project STARS (Jones et al 1993).

REFERENCES
Frolov M.S. and Irkaev B.N., 1982. IBVS 2249.