REPORT ON ESTA ACTIVITES

WHAT'S NEW SINCE CW10?

FUTURE WORK

Yveline LEBRETON

GEPI – Paris Observatory

NEWS

- ESA-SP/CNES Publication ⇨

- Announcement of a Workshop in Porto ⇨

PRESENTATIONS

- Andy Moya: Report on Task2 (Step1b) and future work

- Anne Thoul: Liège database of models for β Cephei stars

DISCUSSIONS

- Publication of a dedicated journal volume on ESTA Work

- Initiating Task3 on model comparisons with diffusion

ESA-SP/CNES PUBLICATION
BOOK TITLE : "The CoRot Mission"
AUTHORS: The CoRoT Community

COROT/ESA/CNES PUBLICATION "The CoRot Mission"

ESTA contribution
Chapter XI- Tools for the interpretation

Paper submitted in April (see astro-ph/0605685)

Title:
REPORT ON THE COROT EVOLUTION AND SEISMIC TOOLS ACTIVITY

27 Authors
M.J.P.F.G. Monteiro, Y. Lebreton, J. Montalbán, J. Christensen-Dalsgaard,
M. Castro, S. Degl'Innocenti, A. Moya, I.W. Roxburgh, R. Scuflaire, A. Baglin,
M.S. Cunha, P. Eggenberger, J. Fernandes, M.J. Goupil, A. Hui-Bon-Hoa,
M. Marconi, J.P. Marques, E. Michel, A. Miglio, P. Morel, B. Pichon,
P.G. Prada Moroni, J. Provost, A. Ruoppo, J.-C. Suárez, M. Suran, T.C. Teixeira

ESA-SP/CNES Publication

REPORT ON THE COROT EVOLUTION AND SEISMIC TOOLS ACTIVITY

1. INTRODUCTION
2. NUMERICAL TOOLS FOR ESTA
    2.1 Stellar internal structure and evolution codes
    2.2 Stellar oscillation codes
3. TASK 1: INPUTS FOR MODEL COMPARISON
    3.1 Input physics for the codes
    3.2. Initial parameters of the models
4. TASK 1: RESULTS OF THE COMPARISON
    4.1. Global parameters and evolutionary sequences
    4.2. Internal structure
    4.3. Seismic properties
5. TASK 2: FREQUENCY COMPARISON
6. REFERENCE GRIDS
7. CONCLUSIONS AND PERSPECTIVES ⇩

Joint ESTA and HELAS Workshop on

Solar/Stellar Models and Seismic Analysis Tools

PORTO, 20-24 November 2006 (TBC)

FUNDS from the European network HELAS

Joint ESTA and HELAS Workshop on Solar/Stellar Models and Seismic Analysis Tools

Workshop will mainly focus on tasks 2 and 3:

should include presentations + actual work

- preliminary work on task3 ⇨ July to November 2006

- first results to be presented in Porto

- go on with the work during the Porto Workshop

Proceedings publication as a dedicated volume

Astrophysics and Space Science, Springer

will include all work performed under ESTA

PUBLICATION of a DEDICATED JOURNAL VOLUME on ESTA WORK

AIMS

registrate and describe the tools available for CoRoT

CONTENTS

papers on evolution tools, seismic tools, CoRoT grids, comparisons

A4 format, 2 columns

TOTAL : ~200 pages (but should be a maximum)

SCHEDULE

papers should be ready before Porto Workshop

TABLE OF CONTENTS of DEDICATED JOURNAL VOLUME on ESTA WORK

PRELIMINARY... DETAILS TO BE DISCUSSED AT CW10

EVOLUTION CODES: 7 papers, ~<10 pages each

ASTEC, CESAM, CLÉS, FRANEC, GENEC, STARROX, TGEC

SEISMIC CODES: 8 papers, ~<5 pages

ADIPLS, FILOU, GRACO, LOSC, NOC, OSCROX, POSC, ROMOSC

GRIDS of MODELS: ~3-4 papers, ~ <8 pages each

Grids from CLÉS/Liège, CESAM-ADIPLS/Meudon-Rennes, CESAM/Porto

beta Cephei model/frequency grids from CLÉS/LOSC/MAD codes

COMPARISONS: ~ 3 papers, ~ <16 pages each

contents/number of papers to be discussed here

small number with all the comparisons ?

shorter papers on specific aspects ? ⇩

TASK3: MODEL COMPARISONS WITH DIFFUSION

SCHEDULE

June 2006, CW10, Nice

  Define the cases and diffusion options

July-October 2006

  Start task3

November 2006

  Present first results at Porto Workshop

TASK3: MODEL COMPARISONS WITH DIFFUSION

Microscopic diffusion: two possible formalisms

    Burgers (1969)

    Michaud & Proffit (1993)

Cases:

    M=1.0 $M_\odot$; M=1.1 $M_\odot$; M=1.3 $M_\odot$

    middle of main sequence, end of main sequence, subgiant branch

    initial composition: Y=0.27, Z=0.017

    other physical inputs remain unchanged