

Editorial

This issue is the biggest one we have published so far. Once again, you can find a number of articles with the latest research results.

Apart from the many new exciting discoveries, we have included the manual for PERIOD04 - the latest incarnation of our multiple-period-finding software package. This is the 25th anniversary of the first version. A long time ago, I undertook a minisabbatical from the University Texas at Austin and went to Vienna to write the program. The PERDET and MULTIPER versions were simple Fortran programs not catering to the comforts of the users at all. But they worked and are still used in some places. With time, more simultaneous frequencies could be considered, and amplitude as well as phase variability became an issue. With versions PERIOD90 and PERIOD95, the human brain became too small to remember all the options and how to call them, e. g., Enter 'r', then 'x', etc.

So, Martin Sperl added a graphical interface and more options to the program, which became PERIOD98. This program was downloaded by many universities and observatories. His publication in the *Communications* became the most widely quoted masters thesis we have had. His number of citations even put some professors to shame! If your university persecutes you with the citation index, learn from him.

For the last few years, we spent some of our time improving the program and (horrors!) allowing for near-infinite combinations of a near-infinite number of simultaneously present frequencies. (Of course, this also allows you to flaunt all laws of statistics and significance, if you wish.)

So Patrick Lenz programmed all the changes and did a wonderful job. I used dozens and dozens of new versions of the program on the Delta Scuti Network data that came in and suggested/debugged more and more features. The program even determined that over the years FG Vir with its 80+ frequencies has no orbital light-time corrections larger than a few seconds! I just hope that PERIOD04 with all the new features needed by our research has not emulated a famous OFFICE suite enough said.

Allow me a side comment. There exist a number of different programs packages and approaches to help analyze the periodic content in photometric data. I have participated in a number of successful blind and semi-blind tests. The conclusion is that most programs and approaches work very well and give

correct as well as complete answers when used by cautious and experienced astronomers. For Delta Scuti stars, the Merate and Vienna astronomers almost routinely get the same answers with their different programs. Only a few approaches (may I mention CLEAN or earlier versions of Maximum Entropy?) are controversial.

We hope you find PERIOD04 for WINDOWS, LINUX and Mac OS X useful. Please give us your suggestions for PERIOD08.

Michel Breger
Editor