is just below the rate predicted by the surface rotation. This is consistent with the core of the Sun rotating relatively slowly. The results from other workers in the field have implied a rather faster rotation for the solar core. However, it should be emphasized that the other results do not come from cleanly split lines and we would therefore consider them to be less reliable than our current result.

11. Frequencies and splittings of low-degree solar p modes: Results of the Luminosity Oscillations Imager (T. Appourchaux)

The design of the LOI instrument was an original idea of Andersen *et al.* (1988). It consists of a Ritchey-Chrétien telescope (f=1300 mm) imaging the Sun through an 5-nm passband interference filter at 500 nm. The image is projected on a photodiode array detector built to our specifications (Appourchaux *et al.*, 1992). The detector is made out of 12 scientific pixels and of 4 guiding pixels. The shape of the scientific pixels are trimmed to detect low degree modes for $l < 7$ (Appourchaux and Andersen, 1990). The guiding pixels are 4 quadrants of an annulus with an inner and outer radius of 0.95 and 1.05 solar radius, respectively.

The LOI instrument was installed on an equatorial mount on May 2, 1994 in Tenerife. The time series analyzed here starts from May 2 and ends on October 11. The duty cycle is about 33%. Most observations were performed when the Sahara desert blows sand in the sky of Tenerife, and therefore lowers the transparency and increases the scattered light. The clock of the PC was drifting from day to day. This drift was daily measured and if necessary the PC clock was readjusted. The observed stability of the guiding was about 0.2-0.4″.

Table 1 summarizes the frequencies of the detected modes. For $l = 2$, we are in agreement with Elsworth *et al.* (1994), and Toutain and Kosovichev (1994) (average over $l = 1, 2$: 440 ± 10 nHz, 452 ± 20 nHz respectively), and in disagreement with Fossat *et al.* (1994) (low order modes: 499 ± 15 nHz); these 3 values represent an average of the splitting of sectoral modes, and should therefore be slightly higher than our a_1 by a few nHz (Gough, *private communication*). For $l = 3$, we are in disagreement with Fossat *et al.* (1994) (low order modes: 463 ± 15 nHz). On the other hand, we are in good agreement with the values of a_1 found by Rhodes *et al.* (1990) for $l = 3, 4$ and 5 (426 ± 28 nHz, 412 ± 10 nHz, 406 ± 8 nHz, respectively). It must be pointed out that the agreement with Rhodes *et al.* (1990) may be even better as the autocorrelation method, that they used, systematically overestimates the splittings below $l = 10$ (Brown and Morrow, 1987).

The splitting we found for $l = 2$ confirm the findings of Elsworth *et al.* (1994), Fossat *et al.* (1994), Jiménez *et al.* (1994), and of Toutain and

Table 1: LOI frequencies and 1-σ error in (μHz) of low-l p modes (d: modes detected but no frequency estimate available)

n	l=1	l=2	l=3
15	-	-	2407.68 ± 0.15
16	-	2486.06 ± 0.13	2542.00 ± 0.15
17	-	2619.69 ± 0.16	2676.35 ± 0.20
18	d	2754.38 ± 0.10	2811.50 ± 0.18
19	d	2889.74 ± 0.10	2946.80 ± 0.16
20	-	3024.96 ± 0.11	3082.16 ± 0.11
21	3097.71 ± 0.31	3159.67 ± 0.17	3217.84 ± 0.11
22	3233.08 ± 0.15	3295.41 ± 0.18	3353.83 ± 0.45
23	-	3430.89 ± 0.18	3490.05 ± 0.30

n	l=4	l=5	l=6
15	2458.70 ± 0.23	2506.02 ± 0.18	-
16	2592.87 ± 0.17	2641.30 ± 0.21	d
17	2728.80 ± 0.21	2777.20 ± 0.14	d
18	2864.09 ± 0.08	2913.56 ± 0.15	d
19	3000.21 ± 0.14	3049.78 ± 0.12	d
20	3135.89 ± 0.13	3186.23 ± 0.15	d
21	3271.61 ± 0.16	3322.96 ± 0.31	-
22	3407.98 ± 0.24	3460.42 ± 0.32	-
23	3544.12 ± 0.29	-	-

Kosovichev (1994) about a core not rotating much faster than the solar surface.

12. Solar-like oscillations in η Boo (H. Kjeldsen and T. Bedding)

We have observed evidence for p-mode oscillations in the G0 IV star η Boo ($V = 2.68$). This represents the first clear evidence of solar-like oscillations in a star other than the Sun. We used a new technique in which we measure fluctuations in the temperature of the star via their effect on the equivalent width of the Balmer lines. The observations were obtained over six nights with the 2.5 m Nordic Optical Telescope on La Palma and consist of 13000 low-dispersion spectra. The upper part of Fig. 1 shows the power spectrum of the equivalent-width measurements (the inset shows the window function). We find an excess of power at frequencies around 850 μHz (period 20 minutes) which consists of a regular series of peaks with a spacing of $\Delta\nu = 40.3\,\mu$Hz. We identify 10–13 oscillation modes (lower part of Fig. 1), with frequency separations in agreement with theoretical expecta-