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ON THE PERIOD OF AG PEGASI

In the last time two periods of the well known symbiotic star AG Pegasi were published, which are very different. Meinunger (1983) found a period of 827^d from estimations of a large number of plates of the Sonneberg sky patrol and from photoelectric measurements. This period is also well suitable for reducing radial velocity data of the M-component of the star from $JD \approx 243\ 3000$ to $244\ 2000$. Slovak (1982), however, determined the period of $733^d + 30^d$ from visual observations of the AAVSO from $JD \approx 244\ 2000$ to $244\ 4800$ (1974 to 1982).

To clarify this difference I examined further observations: visual estimations of the AFOEV from $JD \approx 244\ 1000$ until now and photoelectric measurements made by the author with the Sonneberg 60 cm mirror II.

In addition to the minima of Meinunger two new minima were found:

JD	epoch E_1	$O-C_1$
244 4650	20	-140 ^d
5400	21	-217

The calculation of $O-C_1$ was carried out with the elements of Meinunger,

$$(1) \text{ Min.} = 242\ 8250 + 827^d \cdot E_1.$$

From $E_1 = 17$, $JD = 244\ 2360$, a systematic negative increase of $O-C_1$ is visible:

JD	E_1	$O-C_1$	E_2	$O-C_2$
244 2360	17	+ 51 ^d	0	-10 ^d
3150	18	+ 14	1	+20
3920	19	- 43	2	+30
4650	20	-140	3	0
5400	21	-217	4	-10

An improved representation of these minima is achieved by the following new elements:

$$(2) \text{ Min.} = 244\,2370 + 760^d \cdot E_2.$$

The other minima from $E_1 = 0$ to $E_1 = 16$ are well determined with equ. (1). We suspect a period change near $JD \approx 244\,3000$. Therefore the origin of the light variation cannot be explained simply by orbital motion, but should be caused by a more complex mechanism. Further observations are necessary, especially measurements of radial velocities, which should be examined with the new elements.

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