# Secular Change in the Quiet Sun Component of the Total Solar Irradiance at Solar Minimum

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We combine ERB and ACRIM II Total Solar Irradiance (TSI) measurements and find an increase of 0.8 W/m$^2$ between the radiative output of the quietest Sun during the 1985 and 1996 solar minima. Willson (1997) also finds a similar but smaller increase of 0.5 W/m$^2$. This suggests a secular change in solar output of 0.6 W/m$^2$ per decade between 1985 and 1996. If maintained for centuries, such a steady increase in solar output would be a significant external influence in terrestrial climate. Analyses of the ERB data by Lee *et al.* (1995) and Chapman *et al.* (1996), however, give downward adjustment in the ERB data of 0.7 W/m$^2$ that cancels the increase we find. Fröhlich and Lean (1997) give a modified ERB time series that shows a slight decrease in the TSI at solar minimum in 1985 and 1996. Their composite TSI record from 1978 to 1997 can be found at www.pmodwrc.ch. The question of secular solar change remains open pending further analysis of existing data and study of long term stability of the ERB and ACRIMII radiometers.

## References

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