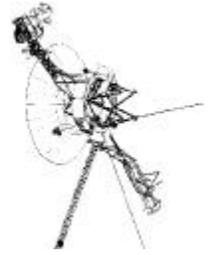


# Global Solar Cycle Variations of the Solar Wind (Voyager)



- **It is well known that near the ecliptic, the dynamic pressure, or momentum flux, of the solar wind varies by a factor of two over the 11-year solar cycle**
- **Major unanswered question: Is this variation a global feature or restricted to low latitudes and perhaps a consequence of the changing tilt of the heliospheric current sheet?**
- **Recent plasma data from IMP-8, Ulysses and Voyager 2 show that the variation occurs at all solar latitudes.**
  - Despite the spacecraft being entrained in very different solar wind regimes from different solar latitudes, the dynamic pressure traces change in unison. (See Figure)
  - For the first time, we can say that the solar cycle dynamic pressure changes occur at all latitudes and in fast, slow and intermediate speed solar wind
  - Implications of global dynamic pressure change are very important
  - The termination shock position responds to changes in pressure by moving in and out over roughly 13 AU for a global factor of two pressure change, whereas a pressure change confined to the ecliptic would result in very little shock movement. At the present time, based on observed pressure decrease, the termination shock is moving inward
  - Important implications for models of the Sun. Processes driving both fast and slow solar wind respond in same way to solar cycle changes, suggesting some relation between the acceleration mechanism. Models of the solar wind source must explain this linked change in momentum flux

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