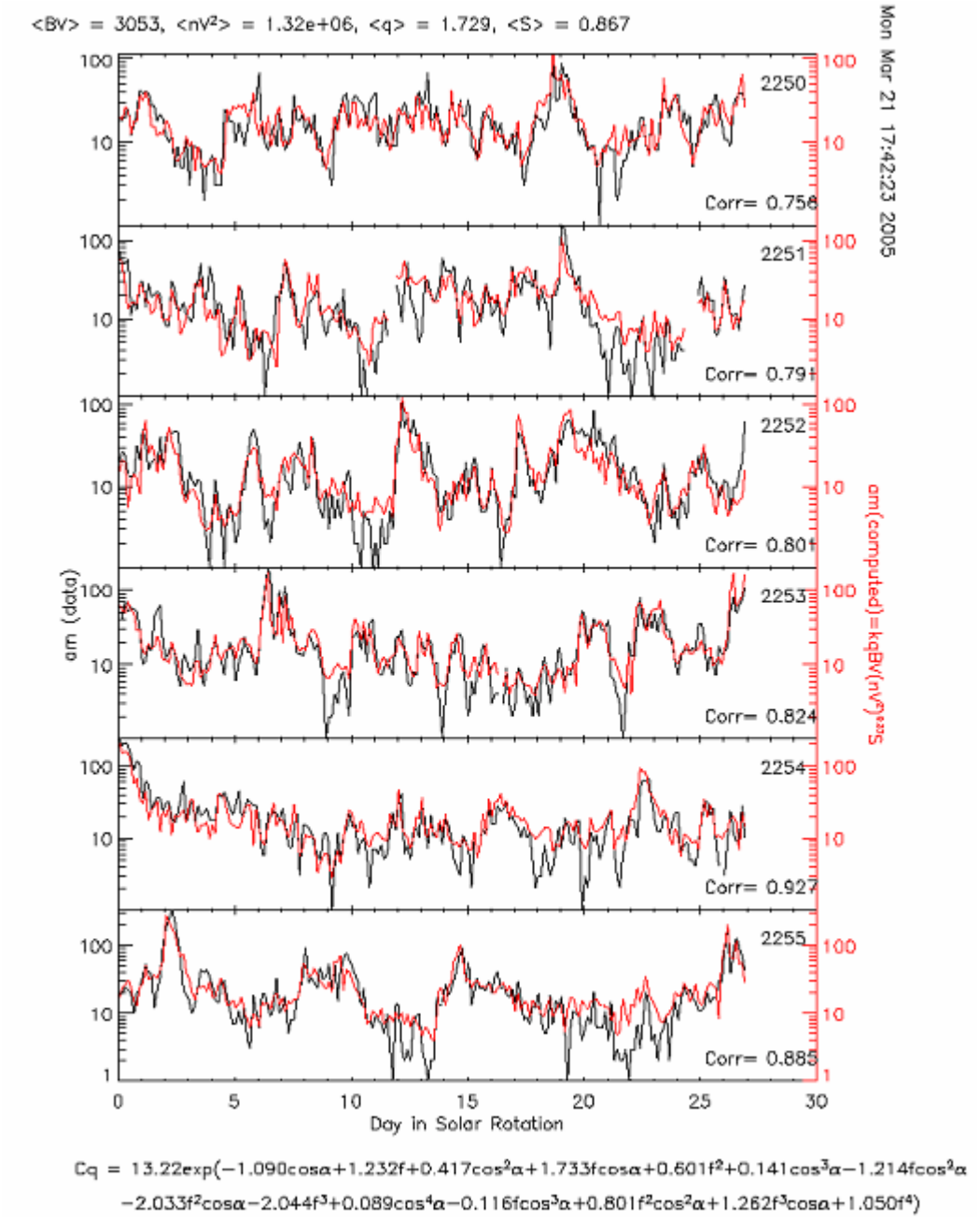

Figure 1: Black curve is *am* observed and red curve is *am* calculated. These are three-hour values. When *am* is less than about 5 it becomes hard [impossible] to measure, hence the discrepancies for small values of *am*.

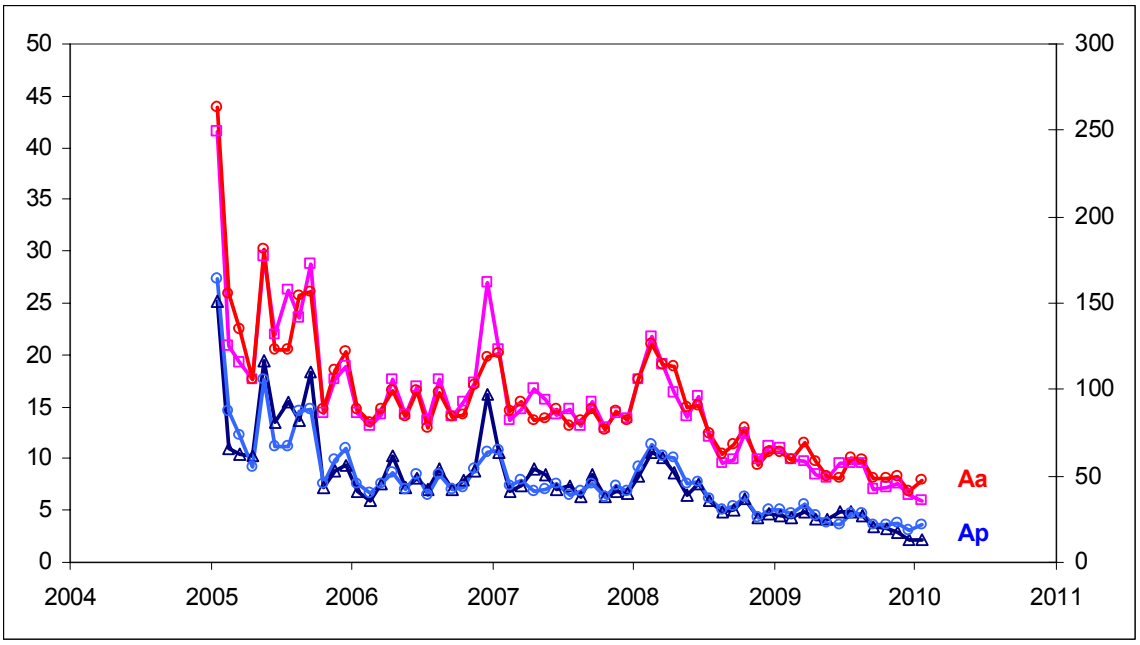

Figure 2. Calculated *Aa* [monthly means]: red curve and circles. Observed *Aa*: pink curve and squares. Calculated *Ap*: dark blue curve and triangles. Observed *Ap*: light blue curve and circles. Note: *Ap* is measured in **2** nT units, while *Aa* is in **1** nT units, hence *Ap* is only *half* of *Aa*, or *Aa* is *twice* that of *Ap*. This was an unfortunate choice made in the 1930s and was meant to signify that *Ap* is ***not known*** any better than to about two nT. Most people ignore that subtlety and confusion results. The relation between *Ap* and *Aa* is not quite linear: for high values of *Ap* the factor is a bit less than two, but for small values it is supposed to be strictly two [by the way *Ap* is defined].

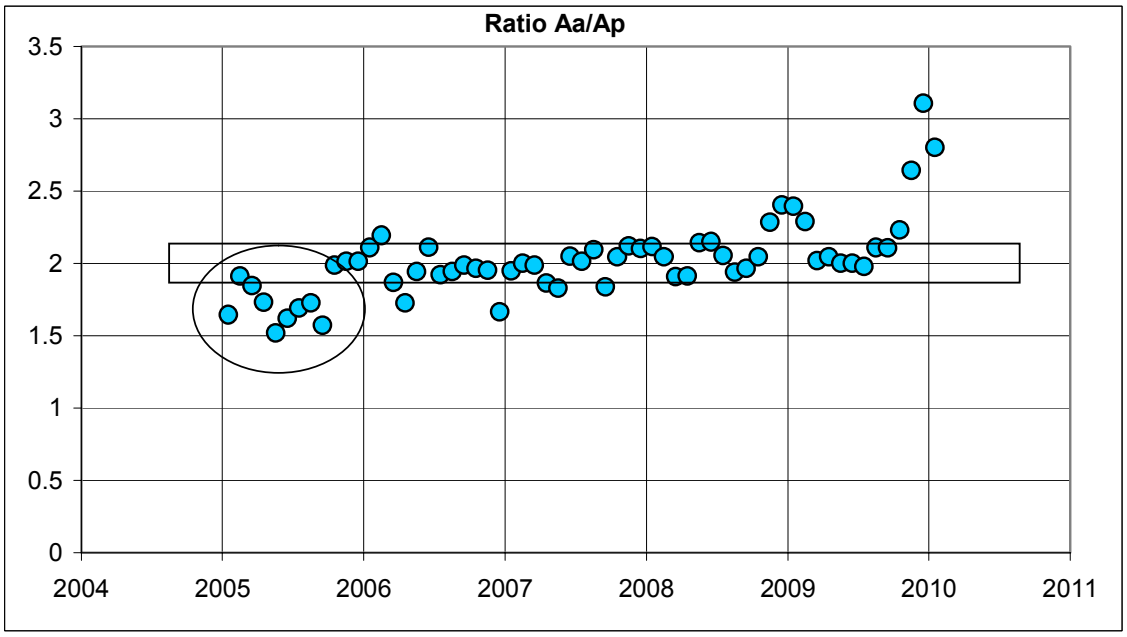

Figure 3. Ratio between *Ap* and *Aa* [monthly means]. The nominal value should be 2 [long box]. For the high values in 2006, the ratio is a bit lower, as it should be [oval]. When *Aa* falls to 5 or below, both *Aa* and *Ap* become unreliable. *Ap* even more so than *Aa*, and the ratio *Ap/Aa* of 3 or above is completely artificial and has no physical meaning.

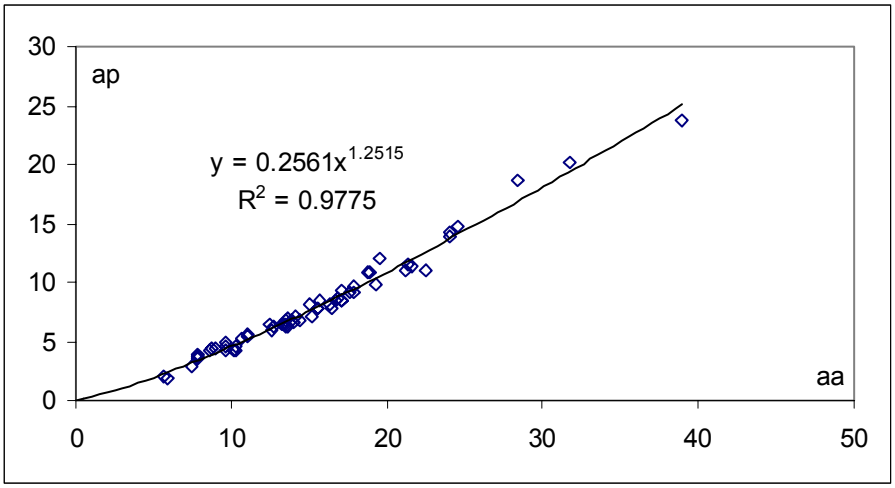

Figure 4. Relation between Ap and Aa [monthly means since 2005].