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COMET P/2004 V5 = P/2003 YM₁₅₉ (LINEAR-HILL)

While the initial report inferred that the discovery of comet P/2003 YM₁₅₉ at Catalina was a team discovery (thus the name ‘LINEAR-Catalina’ given on *IAUC* 8433), it has since been determined that observer Rik Hill was alone in discovering, measuring, and reporting the comet — thereby allowing his name to be used in place of the survey name (as also approved by the Catalina team). Consultation with the IAU Committee on Small-Body Nomenclature has yielded the decision to introduce for this comet the new principal designation P/2004 V5 and to replace the name ‘LINEAR-Catalina’ with ‘LINEAR-Hill’. The components A and B are defined as before. The following improved orbital elements from *MPEC* 2004-V79 are for component A, with the preliminary elements for component B being well satisfied with the same elements but with $\Delta T = +0.23$ day.

$$\begin{array}{rcll} \text{Epoch} & = & 2005 \text{ Mar. } 11.0 \text{ TT} & \\ T & = & 2005 \text{ Feb. } 28.6935 \text{ TT} & \omega = 87^\circ.6836 \\ e & = & 0.445237 & \Omega = 47.8590 \\ q & = & 4.410971 \text{ AU} & i = 19.3582 \\ a & = & 7.951091 \text{ AU} & n^\circ = 0.0439606 \quad P = 22.42 \text{ years} \end{array} \left. \vphantom{\begin{array}{l} T \\ e \\ q \\ a \end{array}} \right\} 2000.0$$

COMET P/2004 V3 (SIDING SPRING)

Improved elliptical orbital elements from *MPEC* 2004-V77:

$$\begin{array}{rcll} T & = & 2004 \text{ Nov. } 13.938 \text{ TT} & \omega = 322^\circ.759 \\ e & = & 0.45163 & \Omega = 356.082 \\ q & = & 3.94084 \text{ AU} & i = 50.454 \\ a & = & 7.18647 \text{ AU} & n^\circ = 0.051160 \quad P = 19.3 \text{ years} \end{array} \left. \vphantom{\begin{array}{l} T \\ e \\ q \\ a \end{array}} \right\} 2000.0$$

COMET P/2004 V4 (NEAT)

Improved elliptical orbital elements from *MPEC* 2004-V78:

$$\begin{array}{rcll} T & = & 2005 \text{ Jan. } 31.1328 \text{ TT} & \omega = 347^\circ.0816 \\ e & = & 0.475536 & \Omega = 103.7625 \\ q & = & 1.920247 \text{ AU} & i = 12.4600 \\ a & = & 3.661350 \text{ AU} & n^\circ = 0.1406832 \quad P = 7.01 \text{ years} \end{array} \left. \vphantom{\begin{array}{l} T \\ e \\ q \\ a \end{array}} \right\} 2000.0$$