Preliminary Determination of Epicenter

```
 PDE 2001  9  9 23 59 17.78  34.0745    -118.3792   6.4 4.2 4.2 HOLLYWOOD
```

year month day hour min sec latitude longitude depth mb (body-wave magnitude) Ms (surface-wave magnitude) PDE event name

Harvard CMT solution

```
event name:     9703873
time shift:      0.0000
half duration:   0.0000
latorUTM:       34.0745
longorUTM:     -118.3792
depth:           5.4000
Mrr:       -0.002000e+23
Mtt:       -0.064000e+23
Mpp:        0.066000e+23
Mrt:       -0.090000e+23
Mrp:       -0.002000e+23
Mtp:        0.188000e+23
```

$$\mathbf{M} = \begin{bmatrix} M_{rr} & M_{r\theta} & M_{r\phi} \\ M_{r\theta} & M_{\theta\theta} & M_{\theta\phi} \\ M_{r\phi} & M_{\theta\phi} & M_{\phi\phi} \end{bmatrix}$$

$$M_0 = \frac{1}{\sqrt{2}} \left(\mathbf{M} : \mathbf{M}\right)^{1/2} \approx 2.18 \times 10^{22} \text{ dyne cm}$$

$$M_w = \frac{2}{3} \left(\log_{10} M_0 - 16.1\right) \approx 4.19$$