

## Re: Mixed Coordinate conversion – ra from long and dec

---

*Source:* <http://sci.tech–archive.net/Archive/sci.astro.amateur/2006–08/msg01633.html>

---

- *From:* [pausch@xxxxxxx](mailto:pausch@xxxxxxx) (Paul Schlyter)
  - *Date:* Mon, 14 Aug 2006 19:43:37 GMT
- 

In article <1155571659.407592.290880@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, Dave Blake <Barnswood@xxxxxxxxxxx> wrote:

Can any one help me with a bit of math.  
I would like to get right ascension given the celestial longitude and declination of an object. Yes, that's right I do mean mixed co–ordinate systems. I know the equations that convert ecliptical to equatorial co–ordinates e.g. celestial long and lat to ra and dec (and vica versa) but I'm darned if I can get the trig re–arranged to give ra as a function of celestial longitude and declination. Not so worried about celestial lat, but it could be part of it.

It might sound odd, but I really do need to solve this. Hope this is right place to try.  
Dave

Use an astronomical ephemeris rather than an astrological ephemeris – then you don't have to bother with this problem..... :-)

The relevant conversion equations can otherwise be found here:

[http://en.wikipedia.org/wiki/Ecliptic\\_coordinates](http://en.wikipedia.org/wiki/Ecliptic_coordinates)

So what you'll have to do is to find the solution of a system of equations, where you know lambda, delta and epsilon, and you want to solve for alfa and perhaps also for beta.

Good luck!

—

---

Paul Schlyter, Grev Turegatan 40, SE–114 38 Stockholm, SWEDEN  
e–mail: [pausch@stockholm.bostream.se](mailto:pausch@stockholm.bostream.se)  
WWW: <http://stjarnhimlen.se/>