```
Parse coordinate string
>>> import astropy.coordinates as coords
>>> c = coords.ICRSCoordinates("00h42m44.3s +41d16m9s")
Access the RA/Dec values
>>> c.ra
<RA 10.68458 deg>
>>> c.dec
<Dec 41.26917 deg>
>>> c.ra.degrees
10.684583333333333
>>> c.ra.hms
(0.0, 42, 44.29999999999784)
Convert to Galactic coordinates
>>> c.galactic.l
<Angle 121.17431 deg>
>>> c.galactic.b
<Angle -21.57280 deg>
Create a separate object in Galactic coordinates
>>> from astropy import units as u
>>> g = c.transform_to(coords.GalacticCoordinates)
>>> g.l.format(u.degree, sep=":", precision=3)
'121:10:27.499'
Set the distance and view the cartesian coordinates
>>> c.distance = coords.Distance(770., u.kpc)
>>> c.x
568.7128882165681
>>> c.y
107.30093596881028
>>> c.z
507.8899092486349
Query SIMBAD to get coordinates from object names
>>> m = coords.ICRSCoordinates.from_name("M32")
>>> m
<ICRSCoordinates RA=10.67427 deg, Dec=40.86517 deg>
Two coordinates can be used to get distances
>>> m.distance = coords.Distance(765., u.kpc)
>>> m.separation_3d(c)
<Distance 7.36865 kpc>
```