

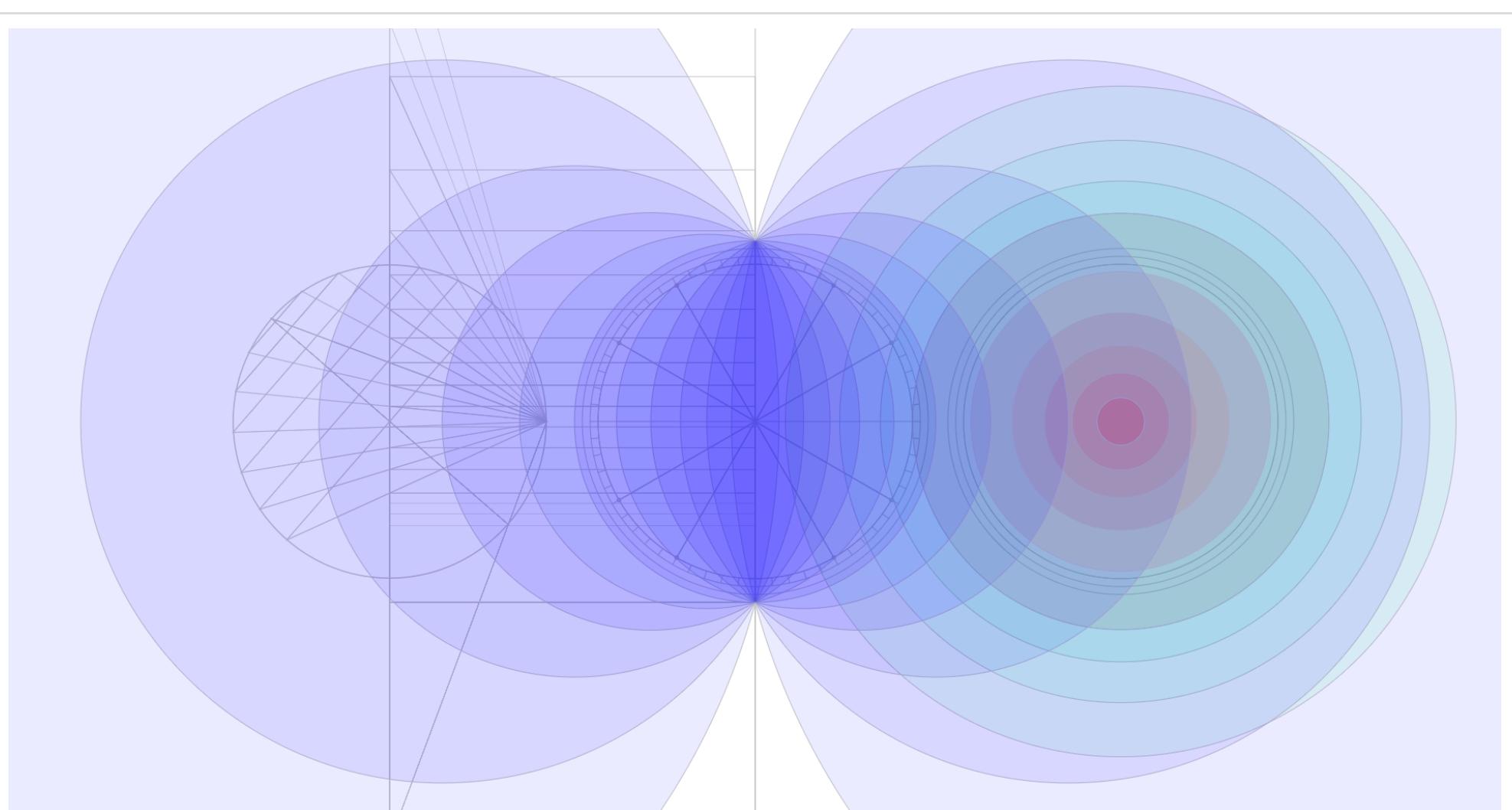
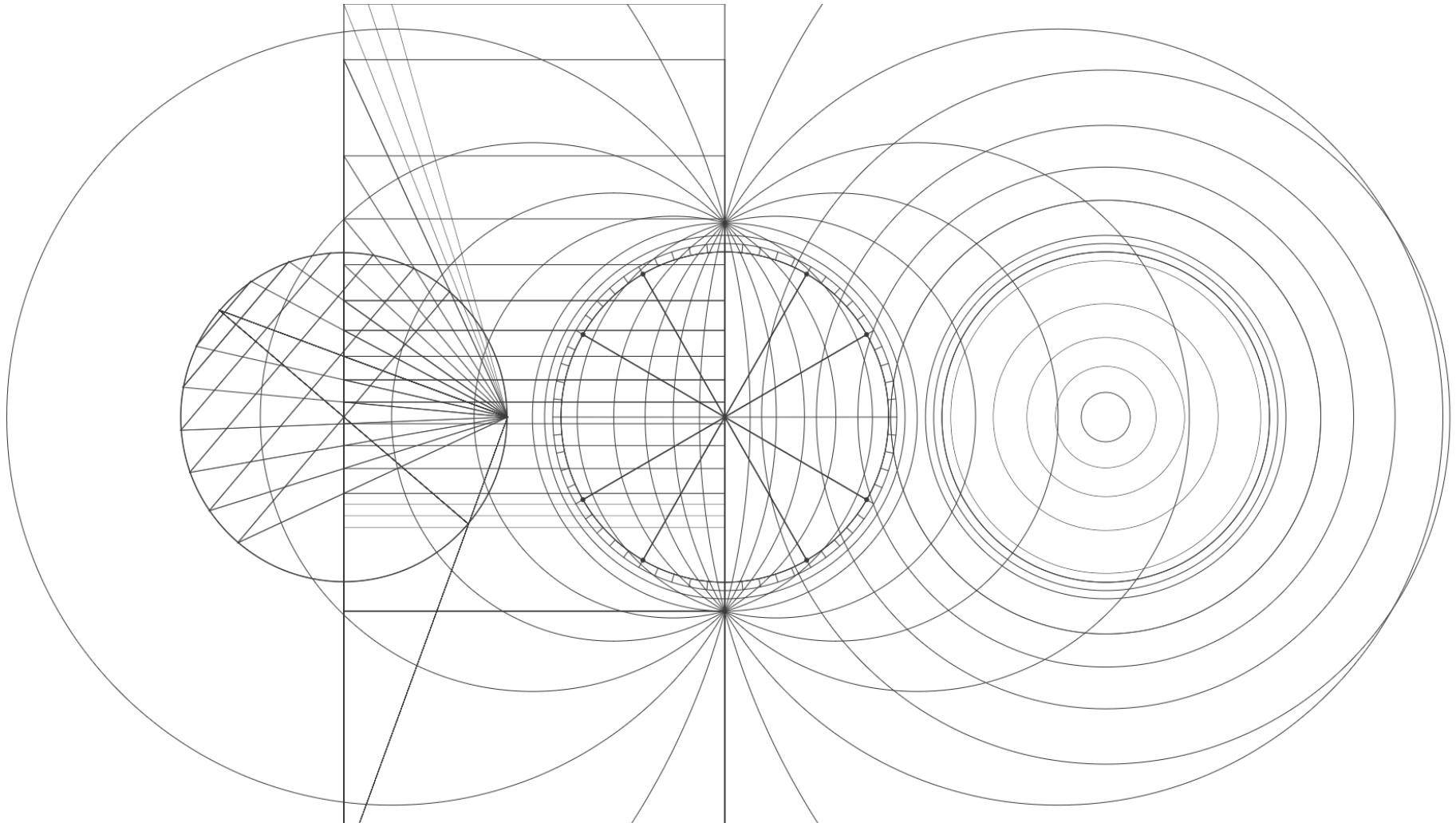
# Heavenly Lines

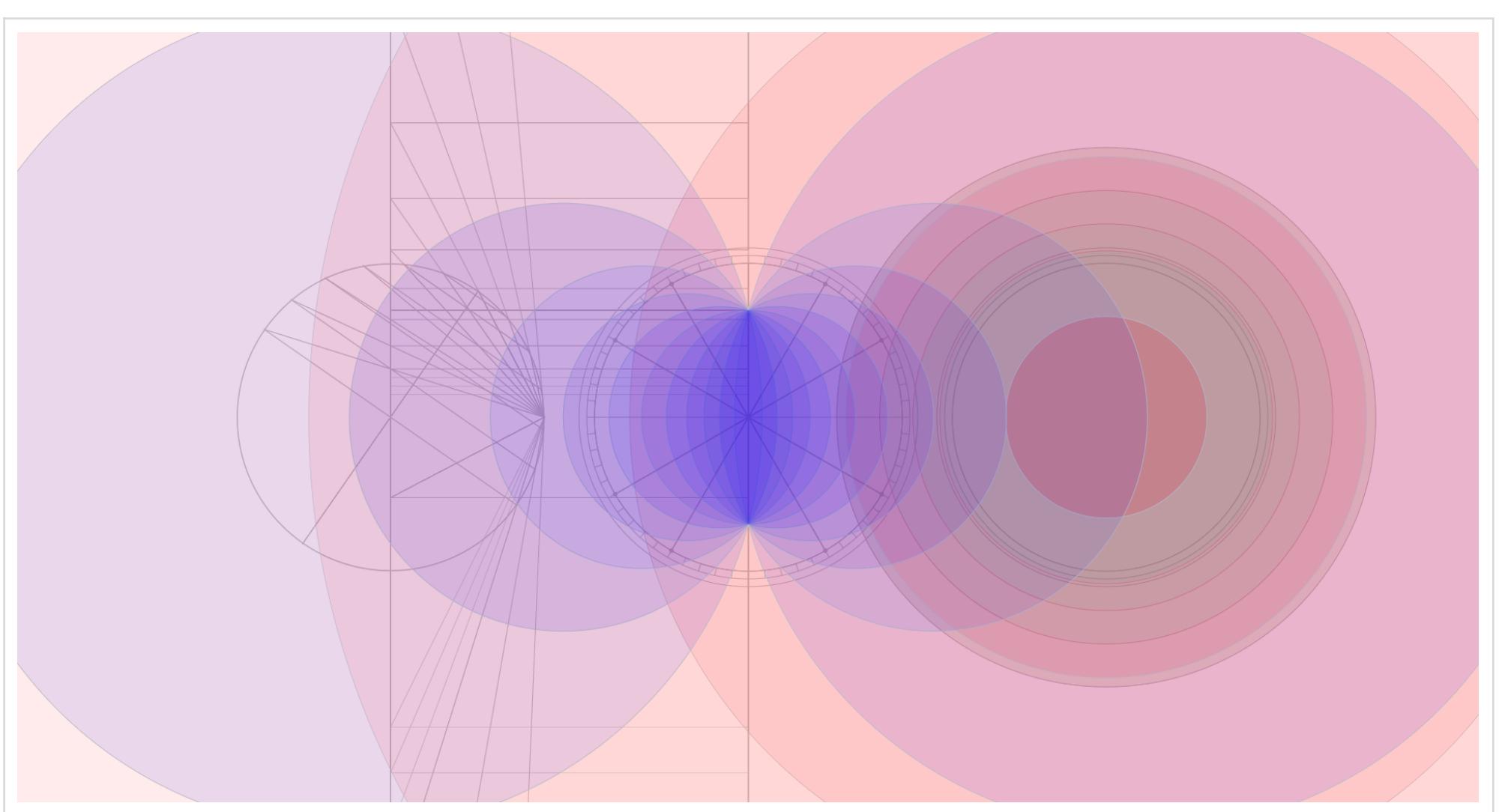
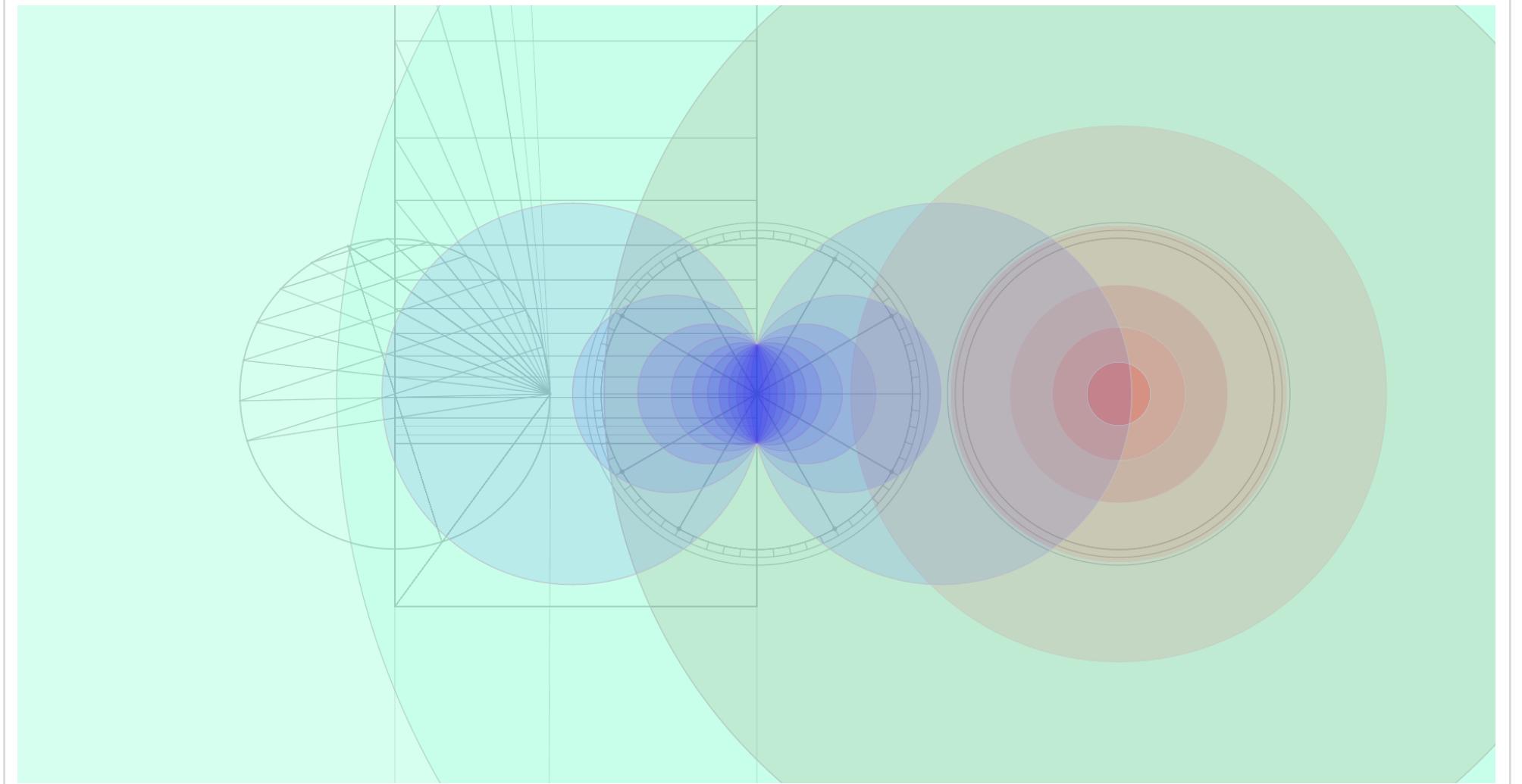
Astrolabes for future use on Mercury, Venus, Mars, Jupiter ... and even Pluto

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An astrolabe (Arabic: الأَسْطُرلَاب) is an intricate inclinometer employed by ancient astronomers and navigators to measure the altitude of a celestial body above the Earth's horizon. The first universal astrolabe was invented by the ancient astronomer Abu Ishaq Ibrahim al-Zarqali (b. 1029). Unlike its predecessors, his 'Tablet of al-Zarqali' projected both the equatorial and ecliptic coordinate systems on a vertical plane that cut the celestial sphere at the solstices, permitting its use at any latitude on Earth.

Inspired by al-Zarqali, I sketched construction lines to create astrolabes for use on each of the eight planets plus Pluto, appending his trigonometry calculations with contemporary NASA data and JavaScript. Variation between the digital drawings results from each planet's unique obliquity to orbit in addition to their distinct rotational and orbital periods.





## WIESNER STUDENT ART GALLERY

Second floor of the Stratton Student Center, MIT Building W20

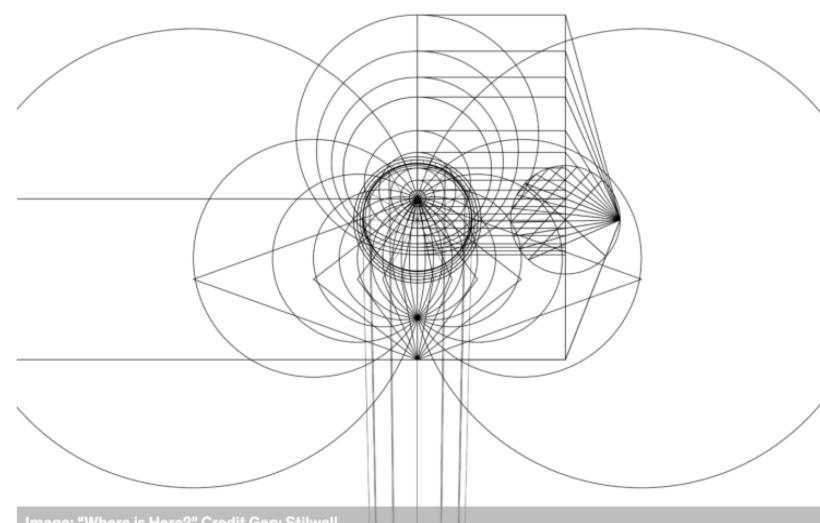


Image: "Where is Here?" Credit Gary Stilwell.

### CURRENT EXHIBITION

Opening Reception: Thursday, December 6, 2018 / 4-6pm

A dual exhibition featuring work by Gary Stilwell and Cole Hoffer  
Curated by Sam Magee

On Display: December 2018

#### *Where is Here?*

Gary Stilwell, a Fellow in MIT's Advanced Study Program, creates art inspired by ancient astronomers and navigators. His work presents astrolabes constructed for future use on Mercury, Venus ... and even Neptune, taking into account each planet's unique obliquity to orbit, orbital period and rotational period. The project was initiated within the course EC.050/EC.090 Recreate Experiments from History.

