



Ceres (1) Rover

Welcome to International NodeBots day 2015!

Your challenge is to build a NodeRover to explore the asteroid Ceres 1.

- Here are some ideas for programming your bot:
- Display the temperature on the digit display
 - Display the light reading on the digit display
 - Use buttons to toggle what is displayed
 - Beep when an obstacle is detected using the ultrasonic sensor
 - Program your bot to drive around an area autonomously, using the ultrasonic sensor to avoid obstacles

Rover Build instructions:
<https://t.co/x3j8m10ddU>

Code samples:
<https://gist.github.com/AnnaGerber/e5f897b745e5f96da463>



The Cereian surface is relatively warm. The maximum temperature with the Sun overhead was estimated from measurements to be 235 K (about −38 °C, −36 °F) on 5 May 1991. Ice is unstable at this temperature.

Ceres appears to be differentiated into a rocky core and icy mantle, and may harbor a remnant internal ocean of liquid water under the layer of ice. The surface is probably a mixture of water, carbonates and clay. In January 2014, emissions of water vapor were detected from several regions of Ceres. This was somewhat unexpected, because large bodies in the asteroid belt do not typically emit vapor, a hallmark of comets.

Ceres (minor-planet designation: 1 Ceres) is the largest object in the asteroid belt, which lies between the orbits of Mars and Jupiter. Its diameter is approximately 963 kilometers (598 miles), making it the largest of the minor planets within the orbit of Neptune.

Physical characteristics			
Mean radius	469 km		
Equatorial radius	481.5 km ^[a]		
Polar radius	445.5 km ^[a]		
Surface area	2770000 km ² [a]		
Volume	421000000 km ³ [a]		
Mass	9.39×10 ²⁰ kg ^[a]		
	0.00015 Earths		
	0.0128 Moons		
Mean density	2.17 g/cm ³ [a]		
Surface gravity	0.29 m/s ² [a]		
	0.029 <i>g</i>		
Escape velocity	0.51 km/s ^[a]		
Sidereal rotation period	0.3781 d		
	9.074170±0.000002 h ^[a]		
Equatorial rotation velocity	92.61 m/s ^[a]		
Axial tilt	≈3° ^[a]		
North pole right ascension	19° 24 ^m		
	291 ° ^[a]		
North pole declination	59° ^[a]		
Albedo	0.090±0.0033 (<i>V</i> -band geometric) ^[a]		
Surface temp. min	Kelvin	mean	max
	?	≈ 168 K ^[14]	235 K ^[15]
Spectral type	C ⁽¹¹⁾		
Apparent magnitude	6.64 ^[a] to 9.34 ^[a]		
Absolute magnitude (<i>H</i>)	3.36±0.02 ^[a]		
Angular diameter	0.854″ to 0.339″		

From Wikipedia: [https://en.wikipedia.org/wiki/Ceres_\(dwarf_planet\)](https://en.wikipedia.org/wiki/Ceres_(dwarf_planet))
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