

Kerbal Space Program - Bug #20773

Orbit Lines render through Celestial Bodies when zoomed out

12/30/2018 08:59 PM - Poodmund

Status:	Confirmed	Start date:	12/30/2018
Severity:	Low	% Done:	10%
Assignee:			
Category:	Camera		
Target version:			
Version:	1.6.0	Language:	English (US)
Platform:	Linux, OSX, Windows	Mod Related:	No
Expansion:	Core Game		

Description

The celestial body and vessel orbit lines (and body/vessel marker icons) render through the surfaces of Rocky Bodies (those with a PQS mesh) and also Jool (Gas Giant, no PQS mesh) when the camera is zoomed out a specific distance from the focused vessel in Map View. It seems that when a certain distance is zoomed out, a threshold is crossed which causes the Planetarium to decide to render the orbit lines through the body surface and are no longer occluded.

Reproduction Steps:

- Put a vessel in orbit around any body.
- Go to Map View and zoom the camera right in to the vessel.
- Slowly zoom out watching where the orbit lines would be behind the body that is occluding them.
- At a certain distance the camera gets from the vessel, the orbit lines pop-in and render through the body.
- You can zoom in and out across this threshold and have the orbit lines render/get occluded back and forth.

Platform: Windows x64 - Vanilla KSP 1.6.0.2395

Videos of bug:

- <https://www.youtube.com/watch?v=q-WZpvpqsv0> - KSP 1.6.0 - Orbit lines render through Rocky Bodies - 1
- <https://www.youtube.com/watch?v=Msdd7Gf4MHQ> - KSP 1.6.0 - Orbit lines render through Rocky Bodies - 2
- <https://www.youtube.com/watch?v=OPluih6P8d0> - KSP 1.6.0 - Orbit lines render through Gas Giants - 1
- <https://www.youtube.com/watch?v=NPWDOJ-OKao> - KSP 1.6.0 - Orbit lines render through Gas Giants - 2

History

#1 - 12/30/2018 09:14 PM - Gameslinx

- Status changed from New to Confirmed

- % Done changed from 0 to 10

This happens for me, also. Not hard to reproduce at all.

#2 - 01/01/2019 01:24 PM - Poodmund

I think this issue is probably to do with how KSP has the Orbit Lines rendered out to the Unity Camera, basically it seems that at some point of zooming out, KSP switches from a 3D based to 2D based rendering system where the 2D based rendering is just pixels drawn on the screen (or it may just be misconfigured, I don't know). You may be able to change this so that, for the orbit lines, they are forced to be in the 3D rendering 'system' at any distance of camera zoom.

The only "problem" I can think of the top of my head is that the 3D rendered lines, by default, may fade out very early or quickly (this is something that happened with Kopernicus in some testing with resolving flickering Orbit Lines for large SMAs). The way that this could be resolved is that if each body in the system was set to use the lowerCamVsSmaRatio and upperCamVsSmaRatio parameters to define at what distance the lines of the body are set to fade out (just make this upper distance VERY large).

Files

Untitled-1.png	958 KB	12/30/2018	Poodmund
Untitled-2.png	978 KB	12/30/2018	Poodmund