Kerbal Space Program - Bug #25159

The ejection angle within a node for the Maneuver Mode system is changing when it shouldn't be

04/14/2020 02:29 AM - Anth12

Status:	Confirmed	**Start date:**	04/14/2020
Severity:	Low	**% Done:**	10%
Assignee:			
Category:	Controls and UI		
Target version:			
Version:	1.9.1	**Language:**	English (US)
Platform:	Windows	**Mod Related:**	No
Expansion:	Core Game		

Description

A maneuver node when placed purposely represents one point in time.

When a maneuver node is placed the ejection angle should be a number that doesn't change
because it can only be one value at that moment in time.

Screenshot is to show where I mean.

History

#1 - 07/19/2020 08:25 PM - Anonymous

- Status changed from New to Confirmed

- % Done changed from 0 to 10

The term 'ejection angle' is an odd way to describe what it means:
the position in your starting orbit, relative to your starting planet's orbital motion, at which you need to burn.

When 'Orbit' is selected, the 'ejection angle' shows the position of the craft relative to the planet's orbit's prograde, which is fine and could be useful if
you are doing an ejection burn without using the maneuver nodes.

When 'Maneuver' is selected, the 'ejection angle' acts as if it is showing the position of a *ghost-craft* on the post-maneuver hyperbolic orbit, that
ghost-craft being placed to meet the current craft at the time and place of the planned maneuver. This *ghost-craft* calculation is not too surprising
because that is what you do to patch a craft's orbit to another conic section in the patched-conics scheme, but it is not useful here.

The reported 'ejection angle' of a maneuver also changes when the size of the burn changes, with the speed of the *ghost-craft* on the post-burn orbit.
We do not want the angle of that ghost craft, but rather the angle of the maneuver.

When this feature first came out, no-one could figure out what it was displaying:
https://forum.kerbalspaceprogram.com/index.php?/topic/183554-kerbal-space-program-17-%E2%80%9Croom-to-maneuver%E2%80%9D-grand-discussion-thread/&do=findComment&comment=3592032

Files

Angle Changing.png	1.79 MB	04/14/2020	Anth12