

Kerbal Space Program - Bug #4962

Atmosphere re-entry skipped if in high fast forward.

05/10/2015 04:43 PM - Deruwyn

Status:	Closed	Start date:	05/10/2015
Severity:	Low	% Done:	100%
Assignee:			
Category:	Physics		
Target version:			
Version:	1.0.1	Language:	English (US)
Platform:	Any	Mod Related:	No
Expansion:			

Description

I have seen that when fast forwarding at a high rate (1000x or so) with a highly elliptical orbit that intersects the Kerbin atmosphere (around 30k meters) the re-entry is completely skipped and the craft goes for another orbit. I suspect that this is because the physics/position is only calculated every so often and the period in the atmosphere is simply not calculated.

Version 1.0.2

History

#1 - 05/10/2015 09:26 PM - ofensus

I also have experienced this. Was trying to aerobrake in to a lower orbit, but the ship sailed right through the atmosphere.

#2 - 05/12/2015 01:40 PM - Fuebar

Not only will the craft skip re-entry, but will literally orbit *through* a planet if the orbit intersects it at high enough timeskip speeds. I suspect that this only occurs while viewing the solar map (with the M key), not while viewing the ship, based on what I've observed, but I haven't tested that thoroughly. Temporary fix is to just slow down your craft before it reaches the atmosphere/surface, or to leave map view while accelerating time.

#3 - 06/03/2015 11:57 AM - Geschosskopf

- Status changed from New to Need More Info

This isn't a bug, it's an expected and unavoidable side effect of using time warp. Time warp (the space kind, not physical warp in atmospheres) works by skipping calculations. Basically, at 10,000x warp, the ship move 10,000x times as far between the game doing calculations on it as it does at normal game speed. The net result is that the ship effectively "walks" around its orbit in large strides, "touching" its trajectory each step but with its "foot" passing over the section of path in between steps. The higher the velocity of the ship, such as when near Pe, the longer the strides it takes. It's thus quite possible for a ship to "step over" an atmospheric pass at Pe.

This only happens at warps of 10,000x or greater. The game is hard-coded to stop/reduce warp when approaching a planet at warps of 1,000x and below.

#4 - 07/17/2016 09:29 AM - TriggerAu

- Status changed from Need More Info to Needs Clarification

#5 - 08/09/2016 01:51 PM - TriggerAu

- Status changed from Needs Clarification to Closed

- % Done changed from 0 to 100

Closing this report out for now. If you find it is still occurring in the latest version of KSP please open a new report (and this one can be linked to it.) For best results, the wiki contains really useful info for when creating a report <http://bugs.kerbalspaceprogram.com/projects/ksp/wiki>.

You can also ask questions about the bug cleanup in the forum here:

<http://forum.kerbalspaceprogram.com/index.php?topic/143980-time-to-clean-up-the-bug-tracker/> and tag @TriggerAu to get my attention