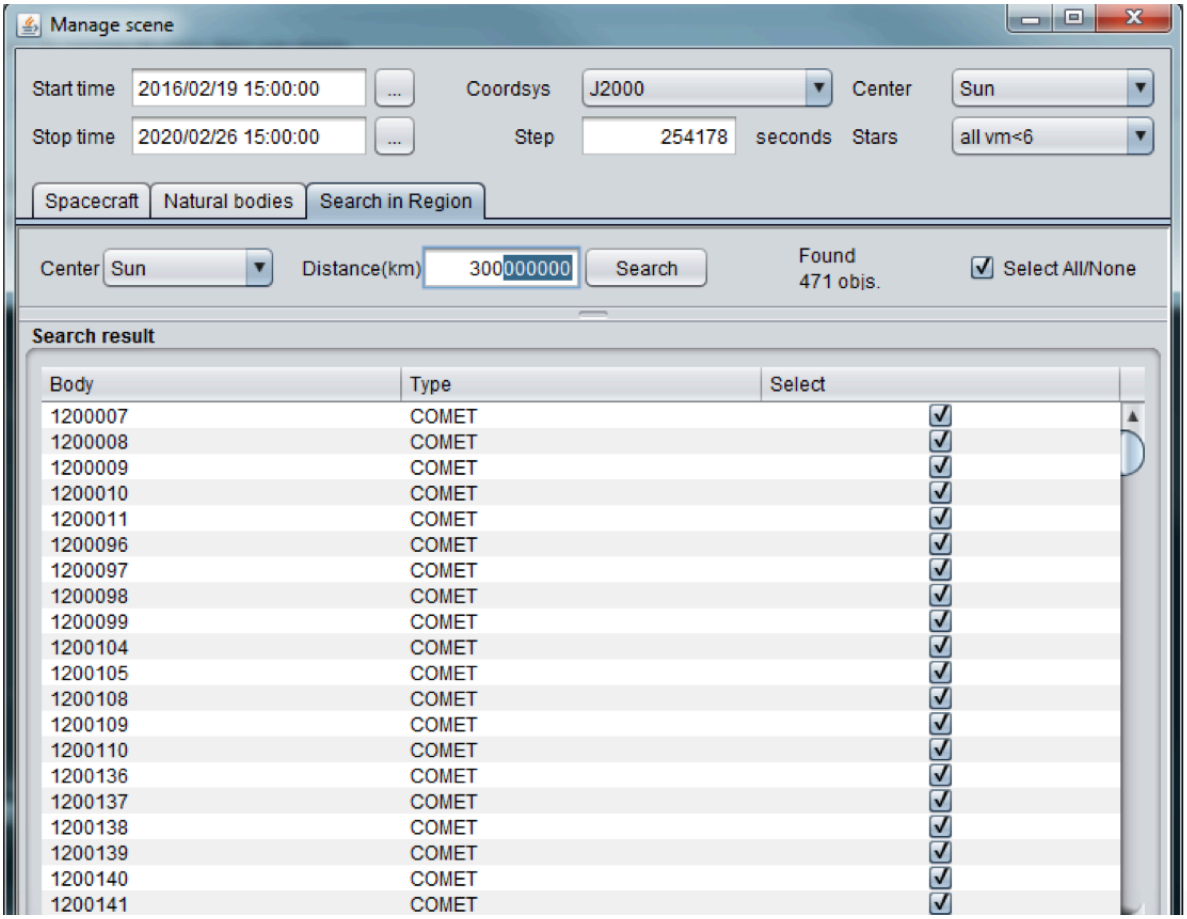
Extension of 3DView and PropTool to comets

3DView:

1) ingest available SPK for comets (1300 identified by Laurent)

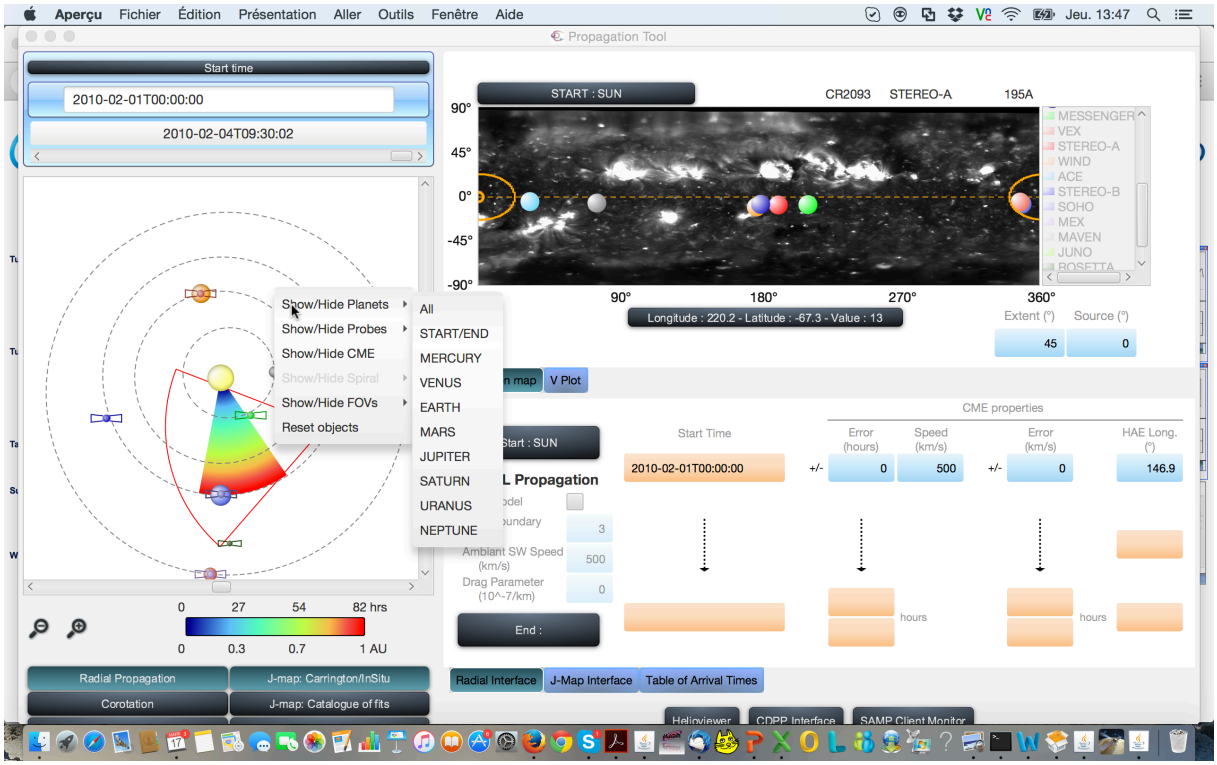
2) implement the possibility to send a unique request to search for their availability/inside Mars orbit for a given period of time

3) implémentation d'un service permettant de chercher tout corps passant entre deux dates à une distance d'un corps central défini (cf. petit client dans 3DView développé par Laurent)



PropTool:

0) Enable the user to access to the developments for comets in the PropTool



Show/Hide Comets **-> All**

➔ Those at a given distance from a central body that could be the Sun or a planet (use of the service implemented in 3DView)

➔ Those within a particular heliospheric latitude range (+/- 20 degrees) with their names

1) Implement the possibility to visualize comet trajectories and positions in and out of ecliptic plane

Show/Hide Comets **-> All**

➔ Those at a given distance from a central body that could be the Sun or a planet (use of the service implemented in 3DView)

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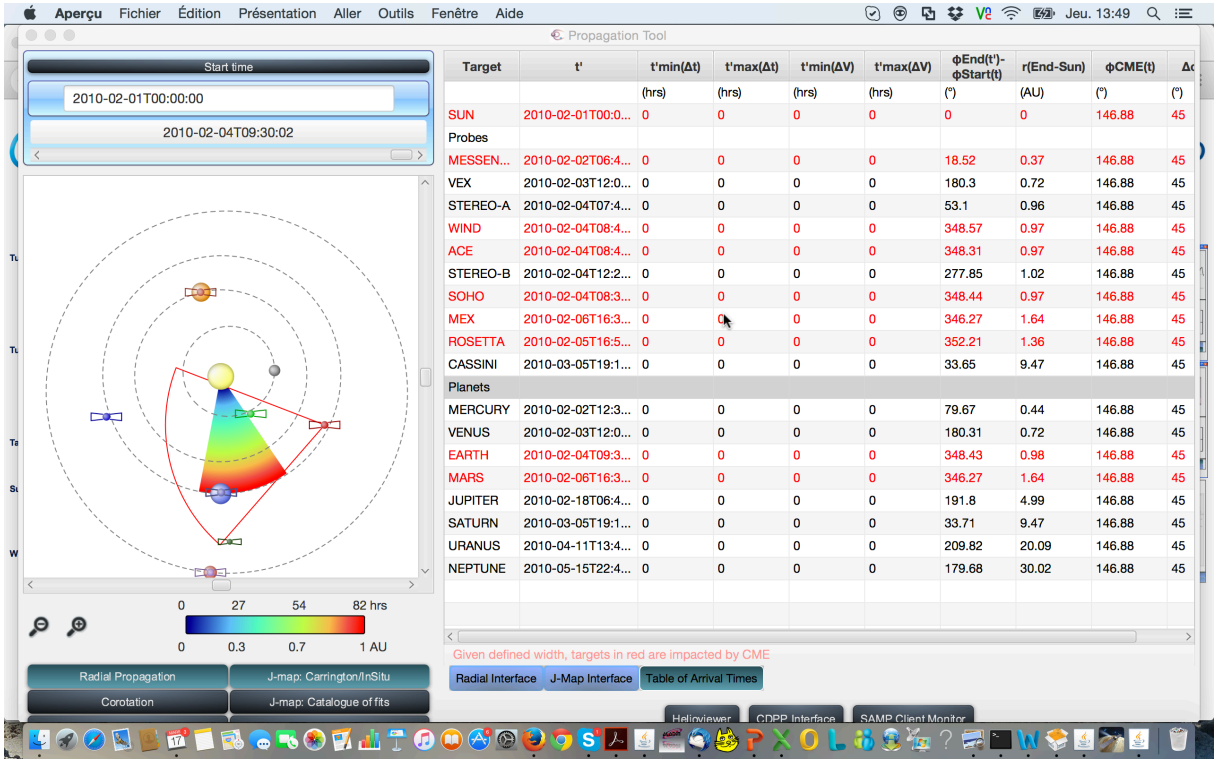
Left panel in above illustration ; enable the user to choose if he/she wants to visualize their (projected) trajectories only in ecliptic plane or both in ecliptic plane and out of ecliptic plane (in the latter case split the window in two windows)

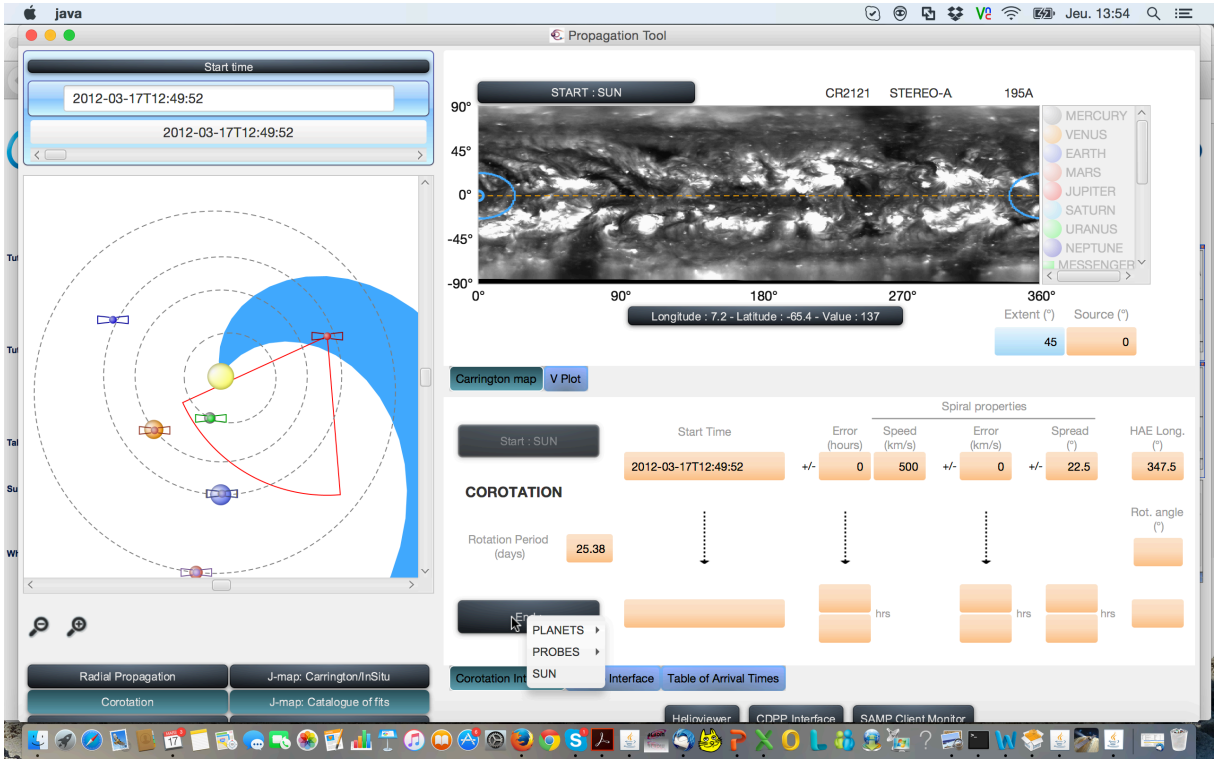
2) 1') Enable the prediction of CME/CIR arrival time only for comet close to the ecliptic plane (+/- 20°)



Target	t'	t'min(Δt)	t'max(Δt)	t'min(ΔV)	t'max(ΔV)	ϕEnd(t')-ϕStart(t)	r(End-Sun)	ϕCME(t)	Δ
		(hrs)	(hrs)	(hrs)	(hrs)	(°)	(AU)	(°)	(°)
SUN	2010-02-01T00:0...	0	0	0	0	0	0	146.88	45
Probes									
MESSEN...	2010-02-02T06:4...	0	0	0	0	18.52	0.37	146.88	45
VEX	2010-02-03T12:0...	0	0	0	0	180.3	0.72	146.88	45
STEREO-A	2010-02-04T07:4...	0	0	0	0	53.1	0.96	146.88	45
WIND	2010-02-04T08:4...	0	0	0	0	348.57	0.97	146.88	45
ACE	2010-02-04T08:4...	0	0	0	0	348.31	0.97	146.88	45
STEREO-B	2010-02-04T12:2...	0	0	0	0	277.85	1.02	146.88	45
SOHO	2010-02-04T08:3...	0	0	0	0	348.44	0.97	146.88	45
MEX	2010-02-06T16:3...	0	0	0	0	346.27	1.64	146.88	45
ROSETTA	2010-02-05T16:5...	0	0	0	0	352.21	1.36	146.88	45
CASSINI	2010-03-05T19:1...	0	0	0	0	33.65	9.47	146.88	45
Planets									
MERCURY	2010-02-02T12:3...	0	0	0	0	79.67	0.44	146.88	45
VENUS	2010-02-03T12:0...	0	0	0	0	180.31	0.72	146.88	45
EARTH	2010-02-04T09:3...	0	0	0	0	348.43	0.98	146.88	45
MARS	2010-02-06T16:3...	0	0	0	0	346.27	1.64	146.88	45
JUPITER	2010-02-18T06:4...	0	0	0	0	191.8	4.99	146.88	45
SATURN	2010-03-05T19:1...	0	0	0	0	33.71	9.47	146.88	45
URANUS	2010-04-11T13:4...	0	0	0	0	209.82	20.09	146.88	45
NEPTUNE	2010-05-15T22:4...	0	0	0	0	179.68	30.02	146.88	45

Show/Add Comets to be selected by users from the lists below

- ➔ **All (maybe in a different window if this option is selected)**
- ➔ **Only those impacted**
- ➔ Those at a given distance from a central body that could be the Sun or a planet (use of the service implemented in 3DView)
- ➔ Those within a particular heliospheric latitude range (+/- 20 degrees) with their names



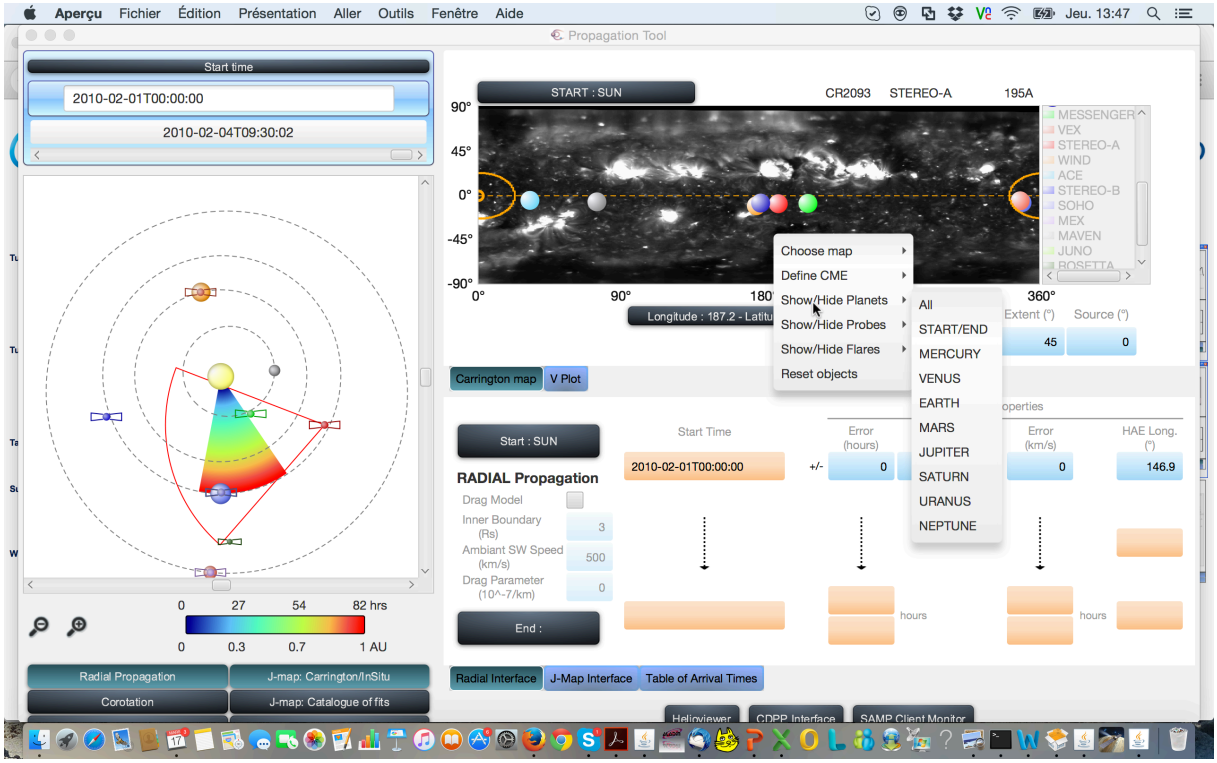
Show/Add Comets to be selected by users from the lists below

-> All

➔ Those at a given distance from a central body that could be the Sun or a planet (use of the service implemented in 3DView)

➔ Those within a particular heliospheric latitude range (+/- 20 degrees) with their names

3) Implement the possibility to visualize comet footprints onto Carrington maps (for comet trajectories in and out of ecliptic, user choice)

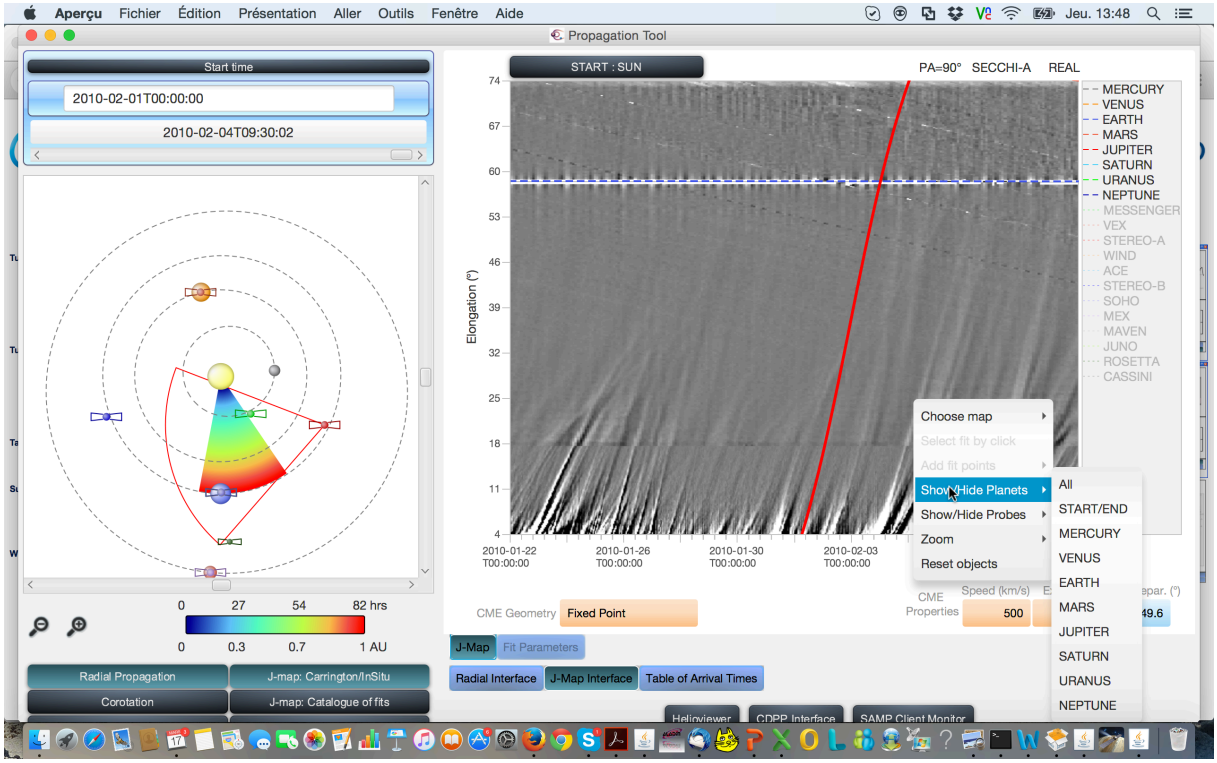


Show/Hide Comets **-> All**

➔ Those at a given distance from a central body that could be the Sun or a planet (use of the service implemented in 3DView)

➔ Those within a particular heliospheric latitude range (+/- 20 degrees) with their names

4) Implement the possibility to visualize comet positions in J-maps (for comet trajectories in and out of ecliptic)



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➔ Those within a particular heliospheric latitude range (+/- 20 degrees) with their names

Start PM 6 ? - PM 18