



An Introduction to HSpot

Mark Kidger
*Herschel Science Centre
Community Support Team*

HERSCHEL SPACE OBSERVATORY



What is HSpot?

- **HSpot** is the tool for planning and preparing Herschel observations and submitting proposals
- Joint ESA/NASA development; adapted from Spitzer's Spot – originally SPOT (Spitzer Planning Observation Tool)
- **HSpot** consists of two layers
 - **Core Spot**
 - About 75%: the core functions of HSpot developed and maintained at IPAC.
 - **Herschel Spot**
 - About 25%: a layer of code and functions specific to Herschel and Herschel's instruments (largely spectroscopy).
- Approximately 25 man-years of effort have gone into developing **HSpot**.
 - About 15 man-years at IPAC
 - About 10 man-years at ESTEC and ESAC

HERSCHEL SPACE OBSERVATORY



What is HSpot for?

- **HSpot** can be used for all phases of planning a Herschel observation
 - Entering and visualising targets
 - Investigating the feasibility of potential observations
 - Target visibility
 - Target background
 - Possible confusion with other sources
 - Time required to carry out an observation, or programme of observations.
 - Designing and optimising your observations.
 - Submitting an observing proposal.

HERSCHEL SPACE OBSERVATORY



How does HSpot do it?

- Nine basic instrument configurations are defined.
 - **Astronomical Observing Templates (AOTs)**
- **HSpot** allows you to personalise an AOT to make it into the observation that you require.
 - An **Astronomical Observing Request (AOR)**
- AORs are the individual observations for Herschel.
 - AORs are later converted into the instructions that Herschel needs to carry out the observations.
 - These are transmitted to the satellite for execution.
 - Observing autonomously requires every observation to be specified in great detail.



Hardware and Software requirements

- Written in JAVA language
 - JAVA 1.6 or later required (only an issue with Mac)
- Operating System configurations supported
 - UNIX: Solaris 5.10+
 - Windows: XP, Vista
 - Linux: RedHat 8.0, 9.0
 - Mac: OS 10.5.1 and later
- Hardware configurations tested and supporting HSpot
 - Sun Workstations (Ultra1 and superior)
 - Windows PC (XP, Vista) with Pentium processors
 - Linux PC: Gnome and Fedora window managers
 - Mac PC with Core 2 duo processor
- In short: **HSpot** will run on almost any computer!!

HERSCHEL SPACE OBSERVATORY



Bugs and Updates

- Like any highly sophisticated and complex system **HSpot** is not perfect.
 - It has been very extensively tested, but astronomers are a devious bunch and will always find ways of doing things that have never been imagined in testing.
 - Inevitably some previously unknown bugs will appear.
 - But, before reporting a bug, check first that it is not one that we do know about (the “**Bug List**” in the Web Page).
- Regular updates are made at pre-planned intervals that fix bugs and add functionality.
 - Enable “Automatic Updates” and the updates will be downloaded and installed for you as soon as they become available.

HERSCHEL SPACE OBSERVATORY



**Enough talk about it!
It's easy to use...**

let's use HSpot!

HERSCHEL SPACE OBSERVATORY