

**Deadline: July 10, 2010**

Previous versions and input from other stakeholders are available at:

<https://twiki.grid.iu.edu/bin/view/VirtualOrganizations/Stakeholder_PlansNeedsRequirements>

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| **Virtual Organization: Joint Dark Energy Mission (JDEM)** |

**Stakeholder Scope: Science VO**

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| **Mission Statement: Driving Force and Vision of VO** |

The [JDEM](http://jdem.gsfc.nasa.gov/) mission will be jointly funded and developed by [NASA](http://www.nasa.gov/) and the [Office of High Energy Physics at the U.S. Department of Energy (DOE)](http://www.science.doe.gov/hep/index.shtml). The mission (circa 2017) will make precise measurements of the expansion rate of the universe to understand how this rate has changed with time. These measurements will yield vital clues about the nature of dark energy. JDEM Dark Energy Techniques include measurements of Baryon Acoustic Oscillation (BAO), Weak Lensing (WL), and Type Ia Supernovae (SNe).

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| **Activity by VO: Quantitative Metrics** |

The JDEM VO is in start-up mode. There has been negligible OSG resource utilization to date. Very rough estimates of future operational needs (mostly supplied internally on JDEM-provided resources):

* ~300 cores for average usage, ~2000 cores for peak usage (full time)
* < 100 GB of data produced per day (space-based experiment!)
* ~300 cores, ~.2 PB disk (and ~.2 PB tape) resources provisioned by JDEM of which perhaps 25% of CPUs are opportunistically available to OSG

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| **Activity by VO: Qualitative Science Value Output** |

Once JDEM becomes operational, VO-specific metrics will be based upon image and spectra processing metrics. This remains a number of years in the future.

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| **VO Direction and Plans: Short-term 6-12 months** |

Startup assistance is being provided by FermiGrid personnel. No other explicit assistance is needed.

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| **Requirements (Needs & Expectations) from OSG: Short-term 6-12 months** |

JDEM effort is centered on workflow and distributed processing. No significant grid processing is expected in this period, though non- time critical tests (perhaps of order 300-core days several times during the year).

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| **VO Direction and Plans: Long-term 1-4 years** |

This period is still prior to the mission. JDEM provisioned resources are not expected to be deployed in quantity for several years. In the interim several exercises (essentially processing of SDSS data) will be undertaken to develop JDEM workflows and algorithms. A current estimate of such processing is for ~300 core-months runs every several months, expected to be available from FermiGrid resources.

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| **Requirements (Needs & Expectations) from OSG: Long-term 1-4 years** |

This time frame is still prior to the mission. The goals in this period are principally to develop JDEM workflows and algorithms in such a manner as to be compatible with using OSG to provide both a mechanism for operating on JDEM resources and for satisfying peak needs elsewhere within OSG.

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| **Significant Milestones (i) Met in 2009-10 (ii) Planned in 2010-11** |

N/A

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| **Miscellaneous** |

N/A