Microlensing, the Future: Lynx, OMEGA Explorer, and Memory-Driven Computing

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Macro-Models reflection simulations circular discrepancy magnification

Disk-winds lens One emission gravitationally Ouasar optical Transverse Broad-Line recent analyze Spins innermost Gravitational supermassive sample help orbit Correlation Regions technique extinction Euclid Analysis present model indicate galaxy sizes based distribution discuss smaller lines black wind ratios data stable disk size microlensing angle study accretion g-distribution ISCO detect BLR spin using Peculiar RX chandra parameter duasars parameter parameter larger simple hole systems mass constrain orientation Measuring chromatic investigate luminosity method continuum monitoring similar inclination supernova similar several X-rav lensed results constraints Velocities

Outline

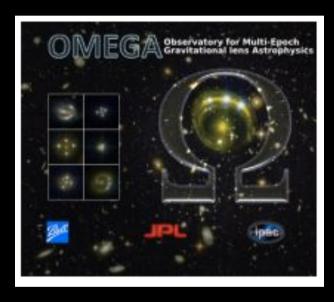


- Which are the ideal scenarios to make "order of magnitude" advances?
- X-ray Surveyor: Lynx
- OMEGA Explorer
- Memory–Driven Computing
- How do we get ready?
- What else can we plan for the Star Trek era? (mission at 500AU, Direct Fusion Drive)
- NewSpace Academia

Future Missions!!



The Observatory for Multi-Epoch Gravitational lens Astrophysics PI: L. Moustakas



Submitted to the Explorer 2011 NASA opportunity, and was ranked Category II ("selectable")

https://science.jpl.nasa.gov/projects/OMEGA/



Community Chairs of the STDT: Feryal Özel – UA Alexey Vikhlinin – SAO

https://wwwastro.msfc.nasa.gov/lynx/

The Machine – HP





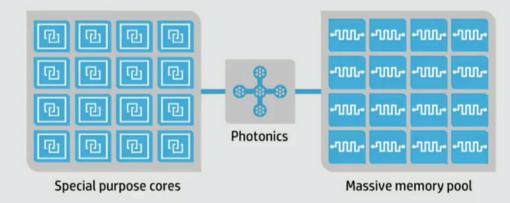
Kirk Bresniker (Chief Architect at Hewlett Packard Labs)

Memory–Driven Computing





The Machine



Credit: HP

Direct Fusion Drive - is real!!



- Check out Princeton Satellite Systems!!
- They got NASA NIAC funding to continue working on DFD
- Expected timeline is less than 10 years!

 Fantastic missions including: 500 AU gravity lens telescope ++ We can give them more ideas!!

NewSpace Academia



There are many reasons....

Beyond being merely cool....



Conclusions



- Star Trek era is around the corner
- We have done amazing things in the ML field during the past years
- We can do great things in the next decade
- But let's think BIG!! And get ready for that!!

Thank you!!!

If interested in asteroid mining...