

Power Beaming for Rovers in Lunar Permanently Shadowed Regions

Space Resource Roundtable 2019

Ross Centers,
David Dickson,
Joshua Schertz

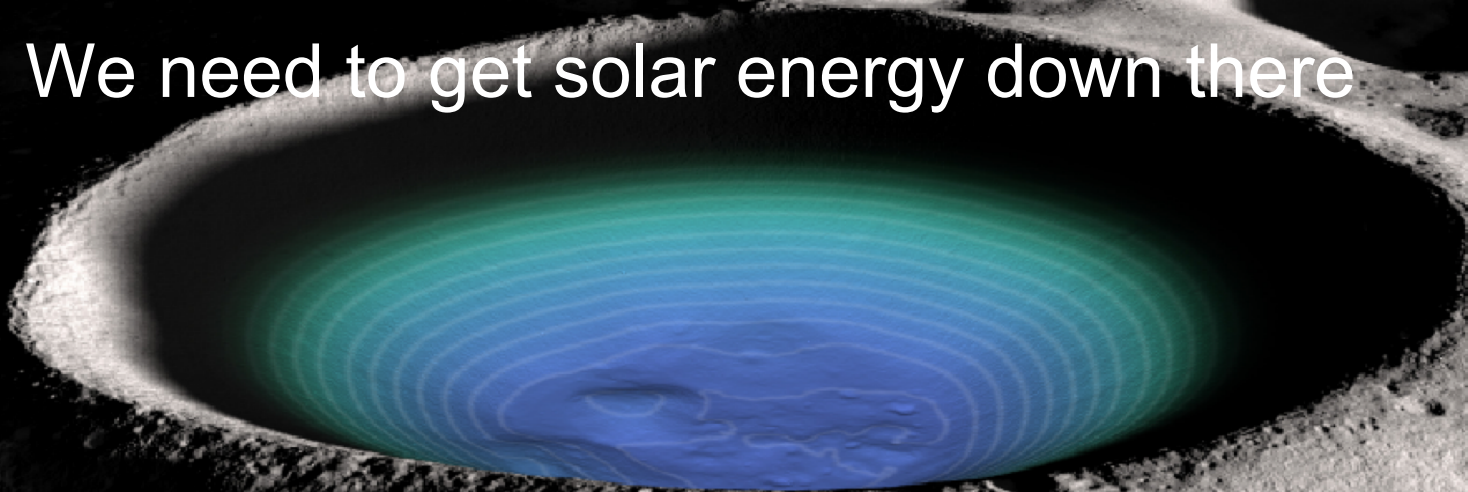
Colorado School of Mines

Why Power Beaming?

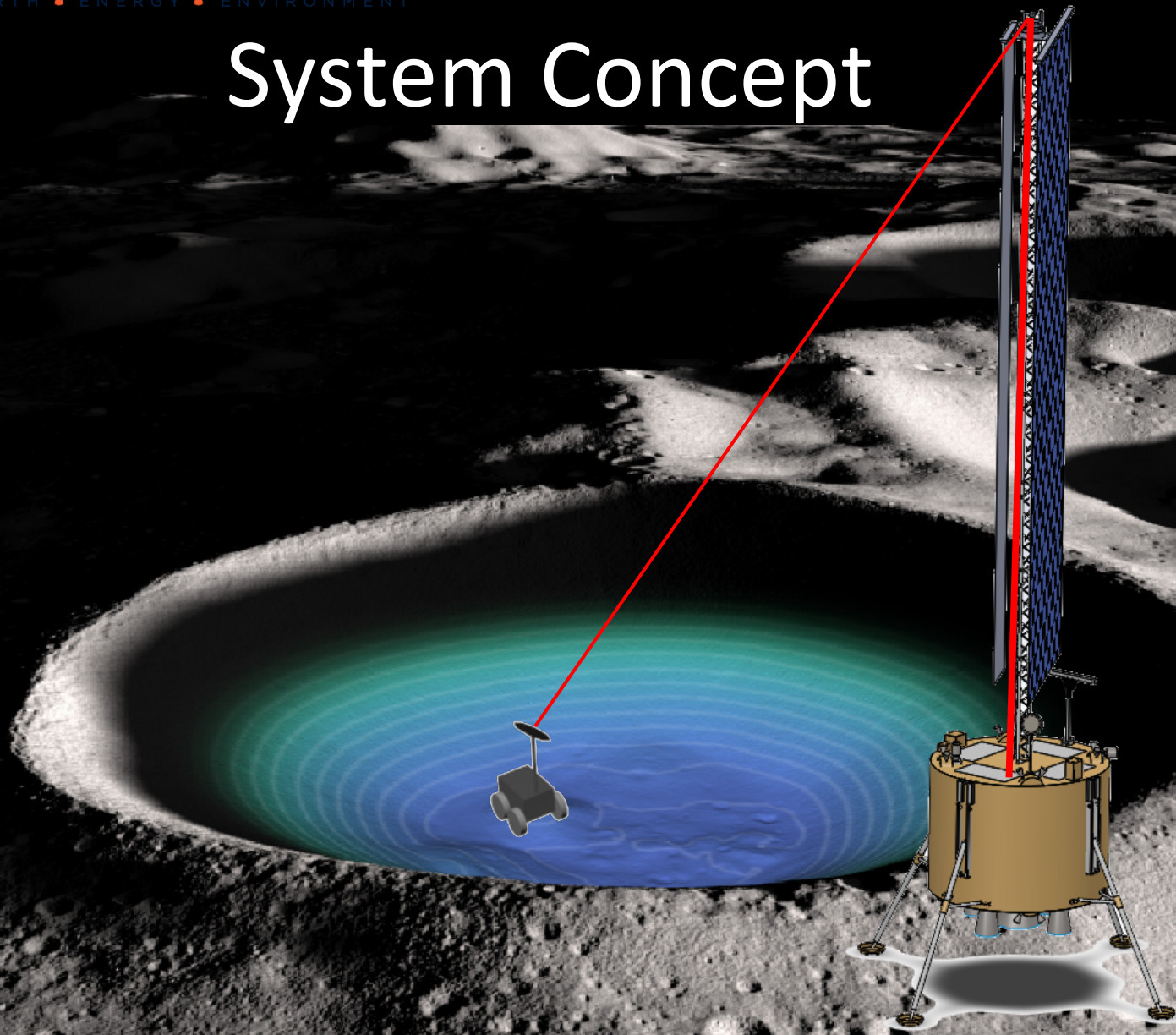
We need to explore PSRs

We don't need nukes

We need to get solar energy down there



System Concept



Lasers are Efficient Enough

	Optimistic	Pessimistic
Beam generation	70%	50%
Optics	95%	90%
Beam capture	99%	80%
Harvesting - electrical	50%	30%
Harvesting - thermal	43%	40%
Harvesting - combined	93%	70%
Transmission efficiency	61%	25%