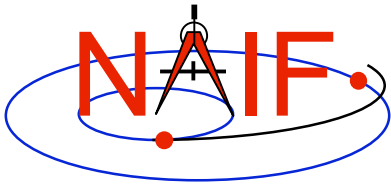


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# **Geometric Event Finding Programming Lesson**

**March 2006**



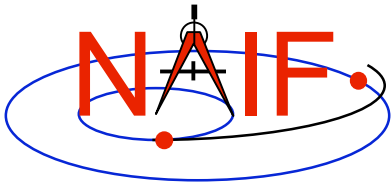
# Geometric Event Finding: Overview

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- **Problem statement:**

- Write a program that determines when a point target is visible, as seen from a surface point on an extended body.
  - » Assume that a second extended body may occult the target.
  - » Account for the possibility that the body on which the surface point is located may occult the target.
- Concrete application:
  - » Within the time interval  
2004 May 2 TDB  
2004 May 6 TDB  
determine when the Mars Express orbiter is visible from the DSN station DSS-14.
  - » Account for possible occultation by the earth or by Mars.
  - » Produce a SPICE window representing the visibility period.



# Visibility Geometry

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