

CCSU  
DEPARTMENT OF MATHEMATICAL SCIENCES  
COLLOQUIUM

Friday, October 21  
4:30 – 5:30 PM  
Maria Sanford, Room 101

**ON THE SET OF SYMMETRIC PERIODIC  
SOLUTIONS OF THE CIRCULAR PLANAR  
RESTRICTED 3-BODY PROBLEM**

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**Abstract:** The restricted circular planar 3-body problem considers the motion of three bodies that move under the following assumptions: (i) the only force being considered is the gravity force, (ii) the mass of one of the bodies (let us say the third one) is so small compared with the masses of the other two, that the gravity force that it produces does not affect the motion of the first two bodies, (iii) the motion of the first two bodies take place in two circles that lie in the same plane, and (iv), the motion of the third body lies in the same plane that contains the circles.

In this talk we will be discussing the existence of periodic solution with symmetries. We will do this by analyzing the level sets (or contours) and the graphs of two functions from  $\mathbb{R}^2$  to  $\mathbb{R}$ . This is work in progress. Basic concepts from Calculus and Differential equations will be used during the talk.

**For further information:**  
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