Ad hoc Workshop on Magnetized Dusty Plasmas

October 19 – 21, 2009
Auburn University, Auburn, Alabama

Supported by National Science Foundation Grant No. PHY-0936470
Workshop Objectives

- Status of the magnetized dusty plasma project:
  - Project history
  - Review past projects
  - Community participation

- Technical discussions:
  - Detailed discussion of physics objectives
    - Physics questions
    - Relevance to dusty plasma community
    - Relevance to other research communities
  - Current status of project development
    - Technical issues addressed to date
    - Outstanding technical issues
Workshop Objectives

- General outcomes:
  - Well-defined (prioritized?) list of physics objectives
  - Prioritized list of near-term / long-term technical issues
  - Preliminary plan for engaging funding agencies

- Specific outcomes:
  - Documents summarizing workshop discussions (bullets + paragraphs of texts)
  - Audiences: NSF program officers (3 – 5 pages)
    University administrators (1 – 2 pages)
  - Sections:
    ✓ Introduction (Bob)
    ✓ Physics motivation and goals (Scott/Marlene)
    ✓ Community involvement (Truell/Andrew)
    ✓ Technical status (Jeremiah/Uwe)
Agenda – Monday, October 19

• 8:30 am  Welcome
• 8:45 am  Session 1: Project overview
  – Project history and status (E. Thomas)
  – Review of previous studies
  – Conditions for magnetized dust (R. Merlino)
• 10:30 am Coffee Break (15 min)
• 11:45 am Break for lunch (Allison 200)
• 1:15 pm  Session 2: Physics goals
  – Technical description of proposed facility
  – Lessons from MPE experiment (U. Konopka)
  – Discussion of physics goals
• 3:45 pm  Coffee Break
• 4:00 pm  Walk to Leach Science Center
• 4:15 pm  Tour of laboratory facilities
• 5:30 pm  Return to hotel
• 6:15 pm  Gather at lobby for walk to dinner (Zazu’s)
Agenda – Tuesday, October 20

• 8:00 am  Continental Breakfast
• 8:30 am  Session 3: Experiments with a magnetized dusty plasma (S. Robertson, M. Rosenberg)
  – Development of plasma sources
  – Development of diagnostic systems
  – Safety issues
  – Operating as a user facility
• 10:30 am  Coffee Break (15 min)
• 11:45 am  Break for lunch (Arricia Restaurant)
• 1:30 pm  Session 4: Broader plasma community / Long-term funding
  – Education and outreach plans
  – Connections to fusion and space communities
  – Securing long-term funding
• 3:30 pm  Coffee Break (15 min)
• 4:45 pm  End afternoon session
• 6:15 pm  Gather at lobby for walk to dinner (Amsterdam Café)
Agenda – Wednesday, October 21

- 8:00 am  Continental breakfast
- 8:30 am  Session 5: Workshop summary
  - Revisiting physics goals
  - Prioritizing experiments
  - Outline of workshop report
  - Plans for next steps
- 10:45 am  End of workshop – return to hotel