IFR repair strategy

• Ongoing activities

• RPC repair/substitution options

• Decision path
Ongoing RPC activities

• Four test stations at work
  - Heating effects on various configurations
  - Gas studies, additives
  - Preamplifiers

• New RPC production started
  - 12 layers (24 modules) of Forward EndCap (Top West)
  - Additional 18 modules ordered for R&D in test stations
  - Double layer structures will be tested

• During November shut down 12 chambers will be extracted and available for studies

• These 24 modules cover the whole spectrum of performances: test bed for repair studies

• The new chambers will be delivered at SLAC fully assembled for insertion in Mid-November
RPC Options

- Treatment with gas additives (no extraction)
- RPC substitution
  - Improvements in materials and construction after several more years of R&D (ATLAS, CMS, LHCb, ALICE, ARGO)
  - No engineering, present electronics, DAQ, monitoring, software
  - Double gap for redundancy
  - Procurement phase: 3 months (conservative)
  - Expected production rate: 100 modules/month
Scintillator option

• Parallel effort to RPC path
• Extruded scintillator with co-extruded coating, WLS fiber and multianode phototubes

• Technology developed for large neutrino experiments (MINOS, OPERA)

• Minimal R+D, profit of present experience
Decision Procedure

1) A Committee has been appointed to organize a dedicated workshop on January 15
   a) first meeting Friday Oct. 6, Committee membership
   b) Person appointed for cost and schedule analysis
2) Working groups will form in October
   * detector choice, mechanics and integration
   * front end, LV, HV
   * DAQ, monitoring
   * software
3) Search for new collaborators
4) Work on various options will be presented at December BaBar general meeting, with
   preliminary written documents
5) Workshop on January 15 to determine feasibility of available options
Possible scenarios

• 1) RPC only
  • New RPC in Forward End Cap in 2001
  • New RPC in Barrel in 2002

• 2) RPC in Forward Endcap, new Technology In Barrel
  • New RPC in Forward End Cap in 2001
  • New technology in Barrel in 2002
  • Schedule for Barrel under development
  • Need to decide on barrel technology early enough for 2002 installation

• Recommendations on how to proceed after analysis of ongoing tests and conclusions of Jan. workshop

• Technical board, Executive board, and SLAC will make proposal to funding agencies