

## NA61/SHINE ion program.

*jeudi 21 juillet 2011 12:45 (15 minutes)*

This presentation will summarize status and plans of the NA61/SHINE ion program. The NA61/SHINE at the CERN SPS facility is the successor of the former NA49 experiment. The study of central Pb+Pb collisions by NA49 indicate that the threshold for deconfinement is reached already at the low SPS energies. Theoretical considerations predict that SPS accelerator will cover one of the most interesting regions of the phase diagram ( $T - /mi_B$ ) of strongly interacting matter in which a 1-st order phase boundary between hadronic and partonic phases and the critical point are located.

The main physics goals of the NA61/SHINE ion program are to study the properties of the onset of deconfinement and to find signatures of the critical point by performing an energy (beam momentum 13A-158A GeV/c) and system size (p+p, p+Pb, Be+Be, Ar+Ca, Xe+La) scan. The successful increase in the event rate will give us a unique possibility to obtain the inclusive and correlated yields of high  $p_T$  hadrons at 158 GeV/c. The first data for this 2-dimensional scan were taken in 2009 and 2010 for p+p interactions at 13, 20, 31, 40, 80, 158 GeV/c beam momentum.

This contribution will summarize physics arguments for the NA61/SHINE ion program, show the detector performance, the current status of the experiment and plans for the next years. The broad physics program of NA61/SHINE experiment includes also a precision measurements of hadron spectra for the T2K neutrino experiment and for the Pierre Auger Observatory and KASCADE cosmic-ray projects. This subjects will be discussed in separate contribution.

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