

Institut für Kernphysik

Leiter: Prof. Dr. Johannes Blümer

Forschungszentrum Karlsruhe GmbH, Postfach 3640, 76021 Karlsruhe

**Dr. Jos Engelen**  
**CERN, Director of Research**  
**CH-1211 Genf**  
**Schweiz**

Datum: 21.06.2004  
Bearbeiter/-in:  
Telefon 07247/82-3545  
Telefax 07247/82-3548  
E-mail: bluemer@ik.fzk.de  
Unser Zeichen:  
Ihre Mitteilung:

**Extension of the NA49 experiment**

Dear Dr. Engelen,

the NA49 Collaboration has recently stated it's interest to continue measurements with specific focus (document CERN-SPSC-2003-038). We write to you to support this plan from the perspective of cosmic ray research, in particular for the KASCADE-Grande experiment in Karlsruhe and on behalf of the Pierre Auger Collaboration.

The analysis of cosmic ray data makes heavy use of simulations. The program package CORSIKA has become the de facto-standard tool in more than 30 groups worldwide. The Karlsruhe KASCADE and Auger team is constantly developing and optimizing the physics as well as the programming techniques in CORSIKA. We have realized that measurements of particle production in the very forward region and of nucleus-nucleus cross sections are needed to further improve the hadronic interaction models. An international workshop NEEDS was held in Karlsruhe in April 2002 to foster a closer cooperation between cosmic ray particle accelerator experiments (see e.g. CERN COURIER 42/6 for a resumée).

We are now taking serious steps towards such common approaches, including the assignment of personnel to cooperate with NA49. We wish to express the strong interest of a large community in the continuation of the NA49 experiment. A modest investment will yield a significant return.

Sincerely yours,

Johannes Blümer  
Auger Collaboration, co-spokesperson

Andreas Haungs  
KASCADE-Grande Collaboration, spokesperson



Forschungszentrum Karlsruhe GmbH  
Mitglied der Hermann von Helmholtz-  
Gemeinschaft Deutscher  
Forschungszentren e.V. (HGF)  
Hermann-von-Helmholtz-Platz 1  
76344 Eggenstein-Leopoldshafen  
Telefon 07247 / 82-0  
Telefax 07247 / 82-5070

Vorsitzender des Aufsichtsrates:  
Ministerialdirektor  
Dr. Hermann Schunck  
Vorstand (Geschäftsführung):  
Prof. Dr. Manfred Popp (Vorsitzender)  
Ass. jur. Sigurd Lettow  
(stellvertretender Vorsitzender)  
Dr.-Ing. Peter Fritz

Sitz der Gesellschaft:  
Weberstr. 5, 76133 Karlsruhe  
Handelsregister:  
Amtsgericht Karlsruhe HRB 302  
Bankverbindungen:  
Baden-Württembergische  
Bank AG, Karlsruhe  
Kto. 4 002 471 300 (BLZ 660 200 20)

Commerzbank AG, Karlsruhe  
Kto 2 221 000 (BLZ 660 400 18)  
Deutsche Bank AG, Karlsruhe  
Kto. 0 236 521 (BLZ 600 700 04)  
Dresdner Bank AG, Karlsruhe  
Kto. 563 439 800 (BLZ 660 800 52)