



Karlsruhe Institute of Technology

ETP Monday Meeting

24.06.2024

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Institute of Experimental Particle Physics (ETP)

A dark-themed banner for the Institute of Experimental Particle Physics (ETP). On the left, there is a snippet of Python code. In the center, the text 'Institut für Experimentelle Teilchenphysik (ETP)' is written in white. On the right, the ETP logo is displayed, consisting of the letters 'ETP' in white and teal, with a circular graphic element. Below the logo, the full name 'Institut für Experimentelle Teilchenphysik' is written in white. The background features a network of white lines and nodes, a teal world map, and a teal circular graphic at the bottom.

```
def main(args, config):
    logger.info(args)
    import numpy as np
    np.random.seed(int(config["seed"]))
    import ROOT
    ROOT.PyConfig.IgnoreCommandLineOptions()
    import root_numpy
    import matplotlib as mpl
    mpl.use('Agg')
    import matplotlib.pyplot as plt

    import tensorflow as tf
    logger.debug(tf.__file__)
    tf.set_random_seed(int(config["seed"]))
    from keras import set_session
    tfconfig = tf.ConfigProto()
    tfconfig.gpu_options.allow_growth = True
    set_session(tf.Session(config=tfconfig))

    from sklearn import preprocessing, model_selection
    import keras.models
    from keras.callbacks import ReduceLROnPlateau,
        EarlyStopping, ModelCheckpoint

    # Extract list of variables
```

Institut für
Experimentelle
Teilchenphysik (ETP)

ETP
Institut für Experimentelle Teilchenphysik

New Team Members

■ ...

Teaching Assignments for WS24/25

- We will discuss assignments July 1st. Please let us know if you have preferences
- **Options:**
 - Experimental Physics I (Klaus/Ulrich)
 - Python Course (Torben)
 - Modern Physics III (Markus)
 - TP1 (PP1): WS24/25 Introduction to PP (Pablo/Markus)
 - ML Lab Course (Jan)
 - Lab courses (P1/P3)

- See emails by Hagen Haberland

■ Physics Colloquium

- Lehmann Hörsaal
- Friday 15:45 Uhr
- Program

28.06.2024 **Ali Hoshyaripour, IMK-TRO, Karlsruher Institut für Technologie**
»Bridging Scales in Atmospheric Aerosol Modeling«
Einführung: C. Hoose

Atmospheric aerosols play a crucial role in Earth's energy balance, interacting with radiation and clouds, thus influencing both weather and climate. This perturbation effect manifests differently at regional and global scales, impacting weather patterns and renewable energy generation in the short term, while shaping the climate system over longer periods. However, uncertainties in regional and global predictions primarily stem from the diverse properties of aerosol particles, especially at Micro-scales.

In this presentation, we address this challenge by integrating recent advancements in aerosol property understanding into the atmospheric modeling framework ICON-ART (ICOsaedral Nonhydrostatic model with Aerosols and Reactive Trace gases). This integration facilitates a comprehensive treatment of aerosol processes and interactions across scales. Leveraging natural experiments such as desert dust outbreaks and volcanic eruptions, we precisely quantify the influence of different aerosol properties and processes on their evolution and impacts.

The findings highlight the critical role of aerosol processes and properties at the micro-scale in enhancing three key aspects of atmospheric modeling: dispersion modeling, weather forecasting, and renewable energy prediction. By capturing variations in aerosol properties, we can improve the accuracy of dispersion models, enabling better assessment of pollution dispersion. Moreover, integrating aerosol processes and properties into weather forecasting models enhances our ability to predict weather phenomena at regional scale. Additionally, aerosol representation holds promise for optimizing renewable energy prediction models, particularly for photovoltaic energy generation, by improving the assessment of solar radiation. In summary, a comprehensive treatment of aerosol processes and properties at the micro-scale is essential for advancing dispersion modeling, weather forecasting, and renewable energy prediction, ultimately contributing to more accurate and reliable atmospheric simulations and predictions.

- Particle Physics Colloquium
 - Kleiner Hörsaal B
 - Thursday 15:45 Uhr
 - Program

KCETA Colloquium

Status of Galactic cosmic ray physics - with an antimatter taste

Thursday, June 27, 2024

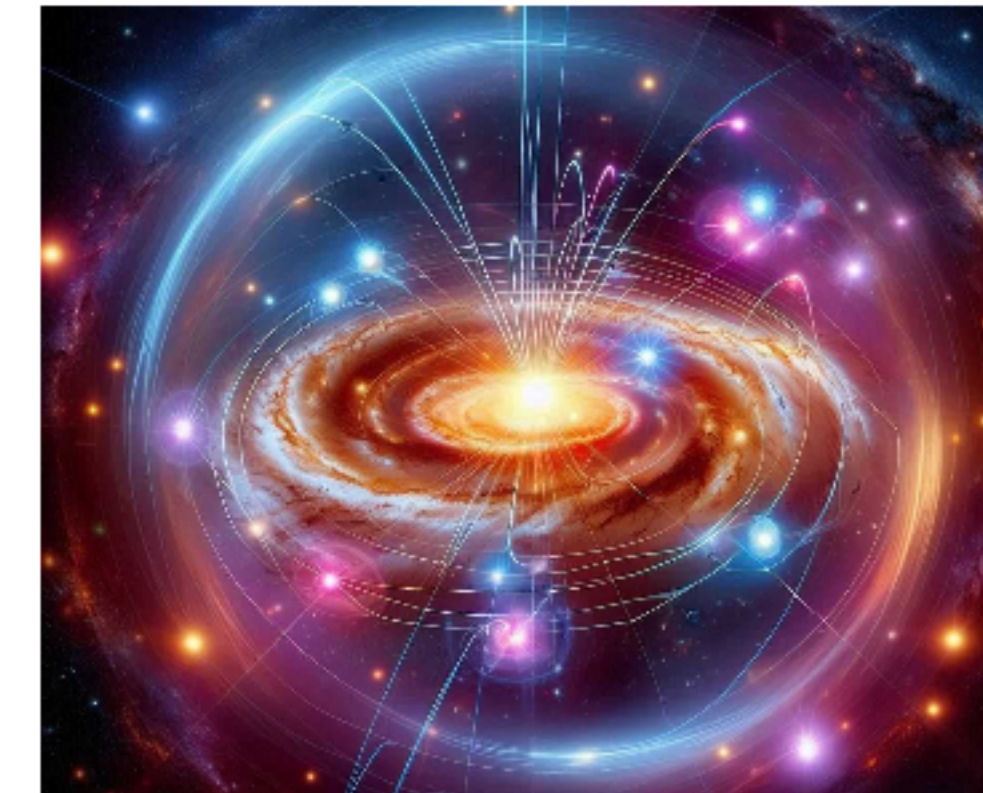
Kleiner Hörsaal A (CS) 15:45 - 17:00

Dr. Silvia Manconi
(LAPTh, CNRS, France)

Charged cosmic rays permeate our Galaxy and act as unique messengers of its properties. During the last decade, precision data on Galactic cosmic rays have been collected by various satellite and ground experiments, and complementary information has come from multiwavelength photon observations.

Among the components of Galactic cosmic rays, antimatter particles are expected to be rare, and thus more sensitive to new physics processes.

In this talk I will review our understanding of Galactic cosmic ray sources and propagation, focusing on antimatter particles, such as positrons and antiprotons. I will discuss tentative excesses reported for each of these cosmic ray species, and recent endeavors to explain them with astrophysical and new physics processes.



Please note:

The colloquium will also be live-streamed to Seminarraum 224 in Bld. 402 (CN).

Clean room

- Inauguration June 18th
- With Acting President Prof. Oliver Kraft and Marc Weber
- Many thanks to all for their contributions!



KIT Meisterschaft - 13.07.24

<https://www.kit-sc.de/leichtathletik/kite-meisterschaft/>



Ausschreibung 10. KIT Meisterschaft 2024

Start:

Der Start findet am 13. Juli 2024 um 9:30 Uhr statt und befindet sich auf dem Engler-Bunte-Ring ca. 50 m südlich des Instituts für Sport und Sportwissenschaft des KIT (Campus Süd, Gebäude 40.40).

Adresse: Engler-Bunte-Ring 13, 76131 Karlsruhe

Ziel:

Das Ziel befindet sich im Leichtathletikstadion des KIT Campus Süd.

Adresse: Engler-Bunte-Ring 13, 76131 Karlsruhe

Anmeldung:

[Hier geht es zur Anmeldung](#) oder über unseren Partner [RaceResult](#).

Die Meldegebühr beträgt 7€ für Studierende, 7€ für Mitarbeiter:innen und 10€ für Externe. Die Meldegebühr beinhaltet die Verbandsabgabe für Volksläufe in der Höhe von 50 Cent pro Teilnehmer.

Meldeschluss und Nachmeldungen:

Meldeschluss ist Mittwoch, der 10. Juli 2024 oder wenn das Teilnehmerlimit von 800 Läufern erreicht ist.

Sofern das Teilnehmerlimit nicht erreicht ist, sind bei der Startnummernausgabe am 12. Juli 2024, sowie am Starttag bis 30 Minuten vor dem Start

Nachmeldungen mit einer zusätzlichen Nachmeldegebühr von 3 € möglich

Startnummernausgabe:

Die Startnummernausgabe findet

- am Freitag, 12. Juli 2024 von 13:00 bis 14:00 Uhr am Institut für Sport und Sportwissenschaft (KIT Campus Süd, Gebäude 40.40) statt.
- Zusätzlich können Startnummern auch am Veranstaltungstag von 8:00 bis 9:00 Uhr am Institut für Sport und Sportwissenschaft abgeholt werden.

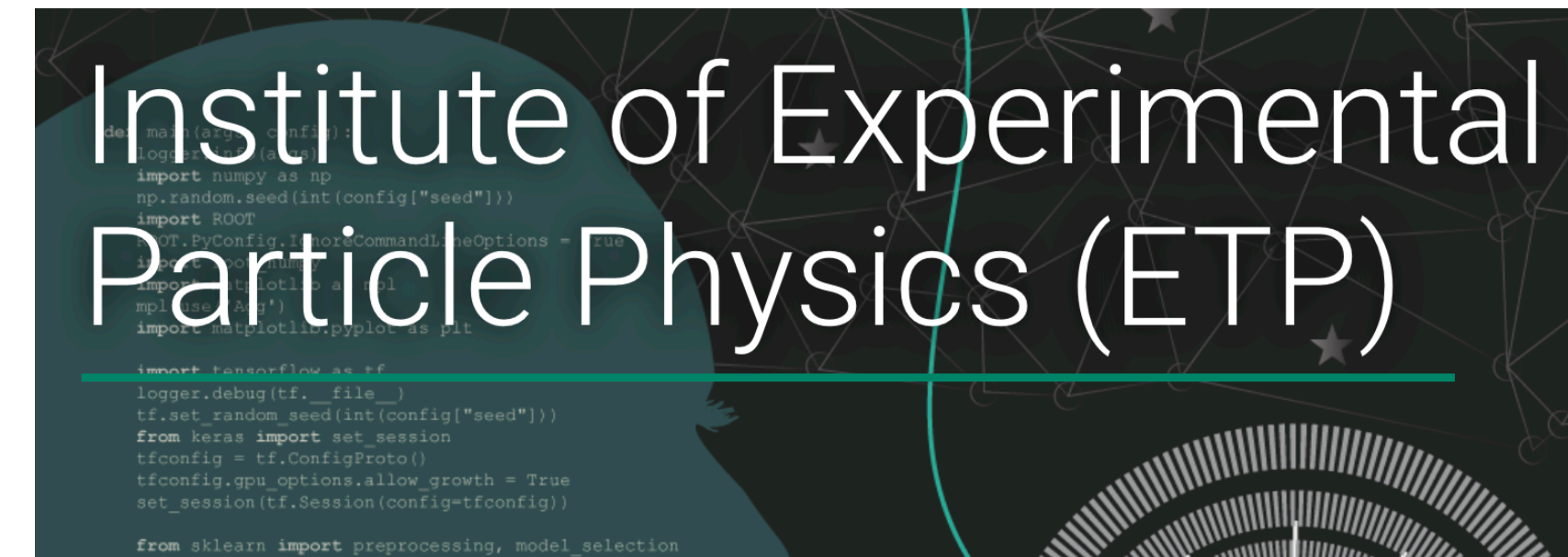






ZKM, St. Dominikus & ETP Collaboration

- Science & Art project received funding by the city of Karlsruhe



ST. DOMINIKUS
Mädchengymnasium Karlsruhe



ETP Events in 2024

- Summer Party - 04.07.24
 - Group foto!
- KIT Meisterschaft - 13.07.24
- Summer Hike - 02.08.24
- Schloss Lichtspiele - 09.08.24
- Christmas Party - 06.12.24

Today's Meeting

Weekly ETP Meeting


Monday 24 Jun 2024, 17:00 → 18:15 Europe/Berlin

  zoom

17:00 → 17:10 **News**
Speaker: Markus Klute

17:10 → 17:40 **Muon pT Scale and Resolution Calibration**
Speaker: Dorian Guthmann

17:40 → 18:00 **ArXiv Review**
Speaker: Jan Voss (ETP KIT)

 Arxiv_report.pdf