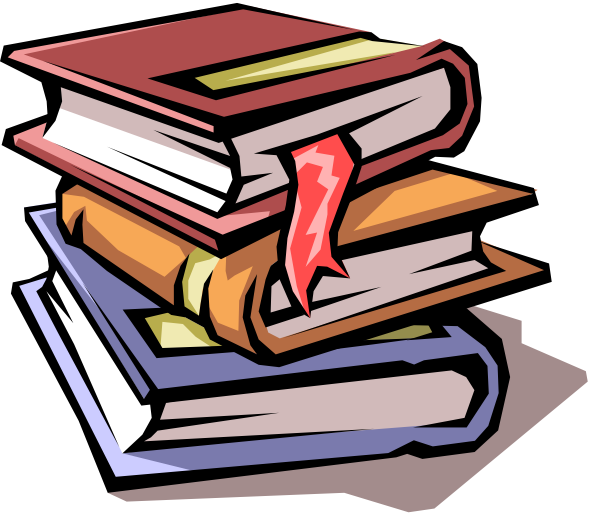


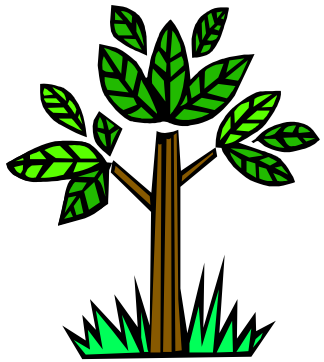
A few sights of Andrzej

(also on “Exponential Particle Spectra”)

The most photogenic physicist

by

Jan Rafelski, born in Krakow 14 y after



A striking experience

When I visited Andrzej in Krakow in 1988, first time back in Poland after 24 years, I experienced

1) the strength and importance of traditions to Andrzej and his friends,

2) Their personal integrity and consistency, and

3) Krakow school of theoretical physics was not just two weeks a year in Zakopane!

We met many times after but I have just a few pictures:

Paris 1993

Divonne
1994

Zakopane 2003

Zakopane 2004

How did it happen we have a publication together?

On occasion of a short stop in Krakow, I think in context of a research meeting with two Wojteks, I walked into Andrzej's office to say hi. He was excited to see me and told me the contents of his latest discovery on balance functions. I listened, trying to understand, doubting I could, and to be sure I did, I asked him a simple question, you surely did this also for baryons which have three quarks and hence would be even narrower than mesons, which have two. Andrzej looked at me, and after 10 seconds told me: write a paper and come back. I did not, so he imposed on me a year later to be his coauthor, arguing that he cannot publish an idea which is not his. So to allow him to publish I went along……

Which paper I would prefer to be made a gift of?

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Fluctuations of the string tension and transverse mass distribution

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Abstract

It is shown that quantum fluctuations of the string tension can account for the ''thermal'' distribution of hadrons created in decay of a colour string.

…and why

Andrzej had a very good idea why spectra of particles produced in string breaking would be not Gaussian but exponential. Wojtek Florkowski things that he figured out how to do this better. But I think we have now figured out why Andrzej was completly right, all we need to do is to read the abstract not the paper. Look at SQM2006, the very first talk: http://home.physics.ucla.edu/calendar/conferences/sqm2006/agenda/talks/2006_03_26/sesteinke_steven.pdf

(and guess the fonts….)

Steve, the keeper of the secret

Radius of the string is a (quantum) collective coordinate. Approach similar to collective nuclear vibrations. Hamiltonian is the string tension involving interaction of the quantum string with the vacuum energy:

H/L=B A + ½ E^2 A Now use Gauss Law, quantize collective coordinates (the right way). The flux tube radius has Guassian structure, fold exactly as Andrzej wanted, and you find exponential spectrum for the particles produced in string breaking, with a good slope – so we get thermal "pre-established" equilibrium due to transverse quantum string dynamics as its cause. Maybe Steve finishes in a few years, and comes to explain all this here.

Experiment on String Fragmentation

The end