

I had the honour and pleasure to collaborate with Bob on what would be his last research paper.

Momentum spectra of charmonium produced in a quark-gluon plasma

[R.L. Thews](#) ([Arizona U.](#)), [M.L. Mangano](#) ([CERN](#)). May 2005.

Phys.Rev. C73 (2006) 014904 nucl-th/0505055

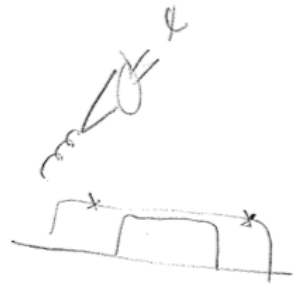
Cited by 106 records

A very successful collaboration, started during one of his several visits to CERN, in which we realized we had a common interest, and complementary skills, in understanding the kinematical properties of quarkonium produced by charm recombination, a phenomenon he himself had predicted long before. We expected that these properties (e.g. a softer pt spectrum) could help pinning down the possible contribution from recombination. An expectation that seems to be confirmed by today's data.

Our study, initially focused on RHIC, was to be extended to the LHC energy range. Bob was very eager to complete this second phase of our work. These are notes from our last mtg, when he visited CERN with his wife Johnnie, in June 2008:

$$R = "17\%" = \frac{N_J^{ND}}{N_J^{TOT}} = \frac{N_{ND} \times F_{ND \rightarrow \psi}}{N_D \times F_{D \rightarrow \psi} + N_{ND} \times F_{ND \rightarrow \psi}}$$

$c\bar{c} \rightarrow \psi$



$$N_D = N_{cc}$$

$$N_{ND} = N_{cc}^v$$

calculate $\times 8$

$$R = \frac{N_{cc} F_{ND \rightarrow \psi}}{F_{D \rightarrow \psi} + N_{cc} F_{ND \rightarrow \psi}} = \frac{N_{cc} \left(\frac{F_{ND \rightarrow \psi}}{F_{D \rightarrow \psi}} \right)}{1 + \left(\frac{N_{cc}}{F_{D \rightarrow \psi}} \right) F_{ND \rightarrow \psi}}$$

calculate $\rightarrow \sim 1/2$

fit \rightarrow calculate \rightarrow extract

We were writing down some relations to help connect the fraction of J/psi from recombination with the total inclusive charm production rate.

Here is from one of our last exchanges, in early 2010:

January 26, 2010

Hello Michelangelo,

*My apologies for being very late with this communication. I have not been able to produce the draft document I intended, partly due to other duties, **partly due to health issues.***

[...]

Best Regards, Bob

I admit not having appreciated the seriousness of his illness. When I asked for details, he didn't provide any, so I didn't insist and assumed it was a temporary ailment. Little I knew.

Used to his leadership and his being the one pushing our projects, I failed to take the lead when I saw his contribution fading away. I will always regret not having pushed myself to get this work done while he could still enjoy seeing its completion.

The memory of his sweetness and kindness will always stay with me

michelangelo mangano