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Dear Stefi,

Here are two copies of the modified version of the Alabama paper. One has the bits with significantly changed text highlighted in yellow. There was a ripple effect from the changes I sent by E-mail. I realized that the abstract also needed some rewording to clarify the difference between the apparent field and the three-dimensional field in the jet. This (of course) triggered pagination problems: we were tight against the 6-page limit and it had been carefully adjusted to avoid starting sections at page bottoms, etc, etc. So the beginning of the abstract is now more terse (but same basic points) to make room for the more explicit statement about the field orientation.

The change in section 3.2 also provoked a "pagination crisis" so something had to move to the discussion. We moved the statement about fitting the flat-topped total intensity profiles, so that 3.2 is entirely about the polarimetry. We also thought it was worth emphasizing that the absence of the radial component in the outer layers is the key to modeling the polarization profile. This is now worded so as to leave the door open for discussion (to come in the Letter) about the role of the azimuthal component, and is in italics.

I also realized that our statement about predicting flat-topped intensity profiles, which is trivially true if the total (rather than apparent) field in the layers is dominated by the axial component, need not be true if there is a significant azimuthal field component in the layers. Because the azimuthal component goes perpendicular to the line of sight when you look through the center of the jet (keeping the polarization low, as required) it increases the apparent emissivity in the center of the jet relative to the edges. So it moderates the flattening of the intensity profiles relative to the case with "pure" axial field in the layer. The detailed modeling shows that to flatten the intensity profiles as much as is observed while adjusting the azimuthal field for a good fit to the polarization profiles, you must turn down the emissivity towards the jet axis. This is exactly what will happen if the jet is near the plane of the sky and its spine is mildly relativistic; the Doppler "hiding" of the spine does just the right thing. (Robert and I even suggested looking for this in FRII jets in the paper on the 3CR quasars.) So I moved the bit about profile flattening to the part of the discussion where we mention the connection to Robert's model. I think it will have more impact there, and even helps to consolidate the idea of fitting FRI and FRII jets into the same picture.

I hope this all meets with your approval. Let me know if there's anything you don't like, there is still time to adjust the text. (The one privilege of being an editor!) I think this is going in a very nice direction that has helped to pump Mark up while doing his thesis "end game". He hopes to submit it on Friday, and we are now looking at March 21st for his defense. It would be great to see you next month and talk about all of this, I hope you'll be able to spend the couple of days here as you mentioned. You'd be very welcome to stay at our house (Mary is feeling a lot better these days and would look forward to seeing you).

By the way, there's a Postscript file of the draft under the "edited by Alan Bridle" link from the conference WWW home page, and both this and an HTML version of the draft are accessible from my own WWW home page.

Cheers,