

Story of an ECE 220 student applying their EM knowledge in a summer internship (summer 1998).

Hi Prof. Booske...

This is [John Doe]. I don't know if you remember me or not, but I was in your 220 section this spring. I just thought I'd tell you what I was doing this summer because it is a little like 220. I am working at GE Medical Systems in the MRI division. I am actually doing programming, but I get to work a lot with the MRI scanners. When I test the software. These things remind me a lot of the [maglev] train we talked about at the end of the year. The magnets we have go up to 2T! They deliver the coil to the hospital and then they fill the casing with liquid helium and then they ramp the coil current up to 750 amps. And then they disconnect the power supply and the current just keeps on going for about 3-4 years on its own and then they have to refill the helium and ramp the current up again. I was thinking that the MRI and the train people should get together! Anyways, like I said, I'm not doing much in the way with fields, but I just wanted to say that its kinda neat to know a little more than the average joe about everything that goes on in a magnetic device as such, especially since I work with them all day. A little tid bit...today I got a little rebellish and brought a pen in the scanner room (they are surrounded with copper mesh) and the darn magnet just about yanked the pen right out of my hand! I brought it near the outside of the cylinder at the middle of the z axis (as we would have called it in class) and one tip of the pen stuck to the magnet and the other end stuck straight out...like someone just tapped a nail into the side of the cylinder. Suddenly I had dreams of magnetic vectors. There are tons of stories here about janitors bringing brooms or buckets into scanner rooms and well, needless to say, that stuff just gets flattened onto the magnet. There's even a picture here of a fork truck smashed into the isocenter of a big MRI magnet. Kinda funny...I'd hate to be in that truck though!

Anyways, I just wanted to say thanks for showing me a little about the things I am working with now. Its much more interesting when you can actually somewhat know what is going on in these machines and how they work. You could do a heck of a visual aid in class with one of these things! [but they'd be an expensive demo].

Have a good summer,

[John Doe]