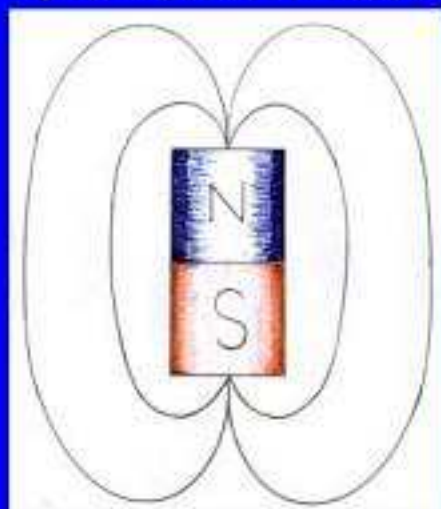
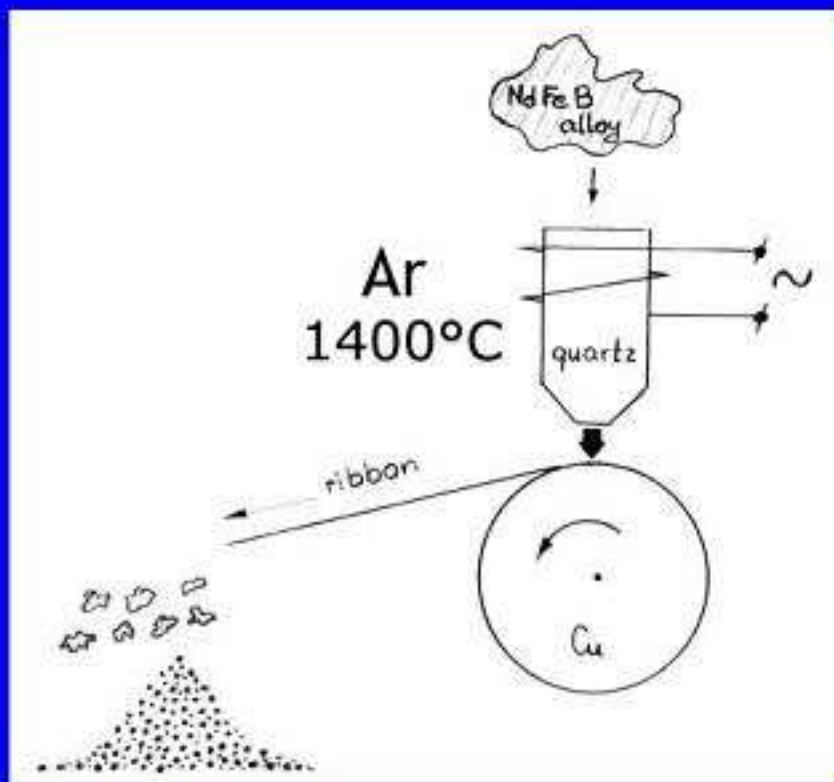


Anisotropic NdFeB magnets by hot plastic deformation.



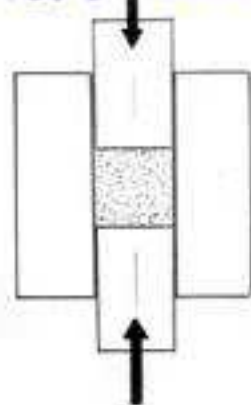
Wojciech Lipiec, Instytut Elektrotechniki,
ul. Skłodowskiej-Curie 55/61, 50-369 Wrocław
tel. 071 3283061, e-mail: lipiec@iel.wroc.pl

How to produce anisotropic
NdFeB plastically deformed
magnet?



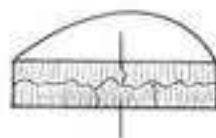
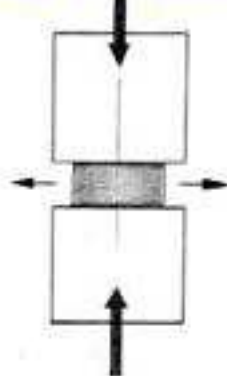
Schematic of fabrication process of NdFeB powder.

100 MPa
750°C vacuum



$E \approx 100 \text{ [kJ/m}^3\text{]}$

100 MPa
750°C vacuum

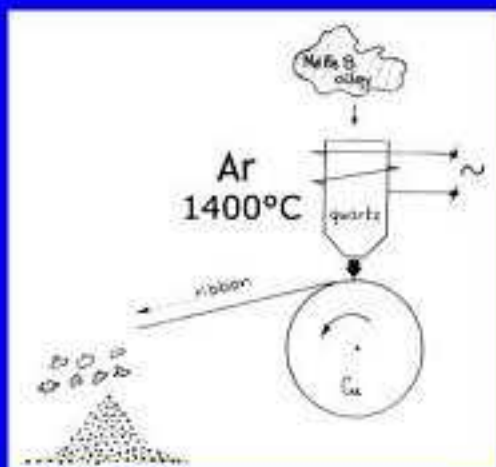


$E \approx 350 \text{ [kJ/m}^3\text{]}$

Schematic of hot compacting and die-upsetting process.

What is the aim of our
researches?

To find out a correlation between the form of starting material and the quality of magnet's texture.



10 m/s

25 m/s

54 m/s

coarse-grained

fine-grained

amorphous



anisotropic magnet



anisotropic magnet

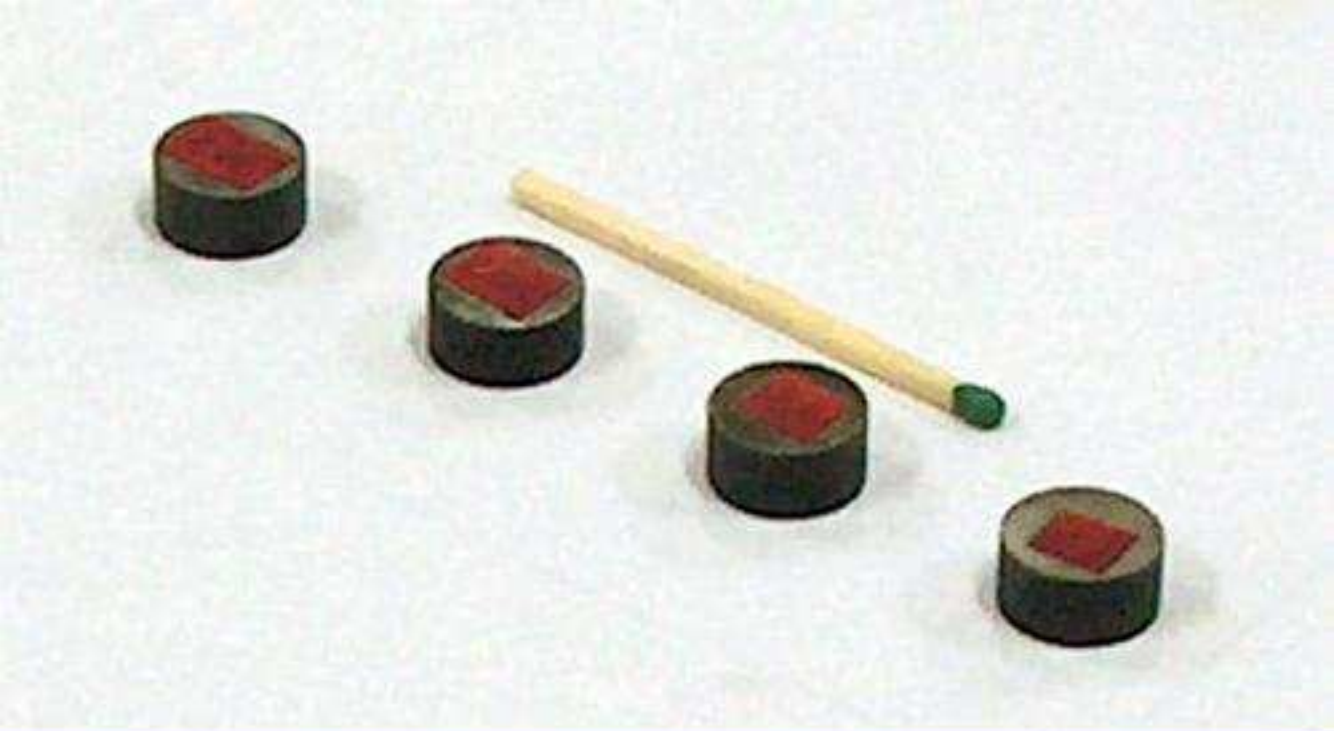


anisotropic magnet

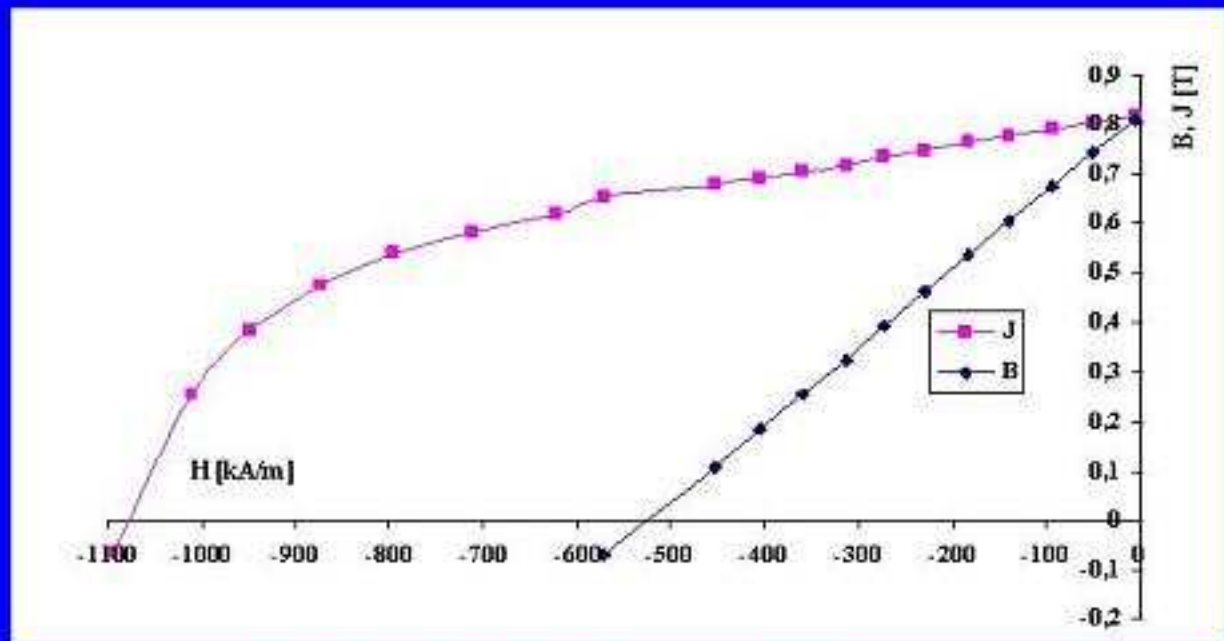
What have we done yet?



The station for production of hot pressed magnets.

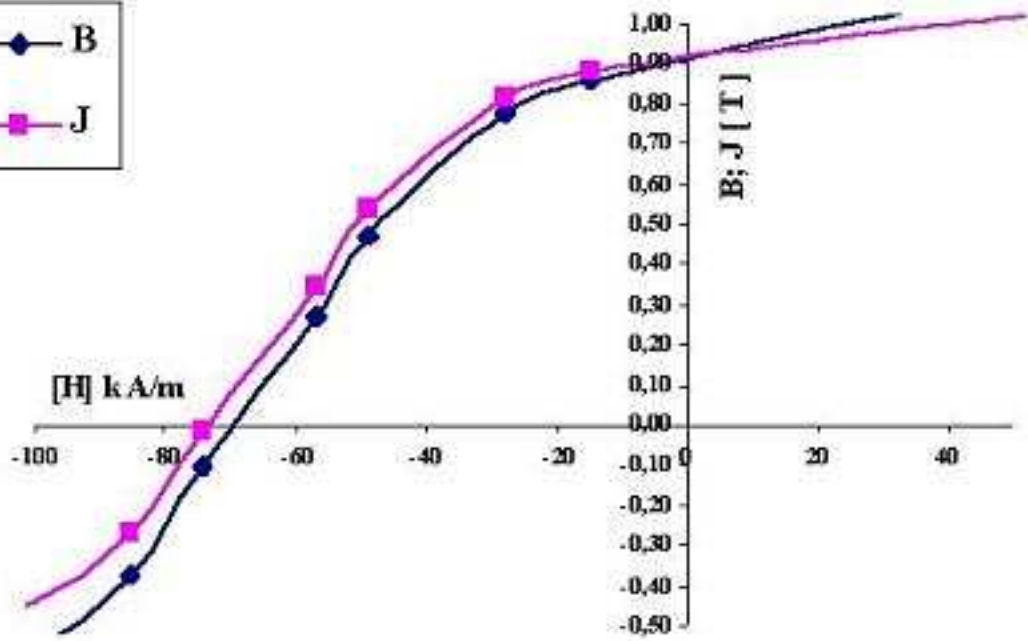
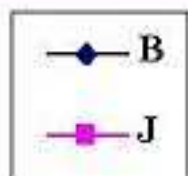


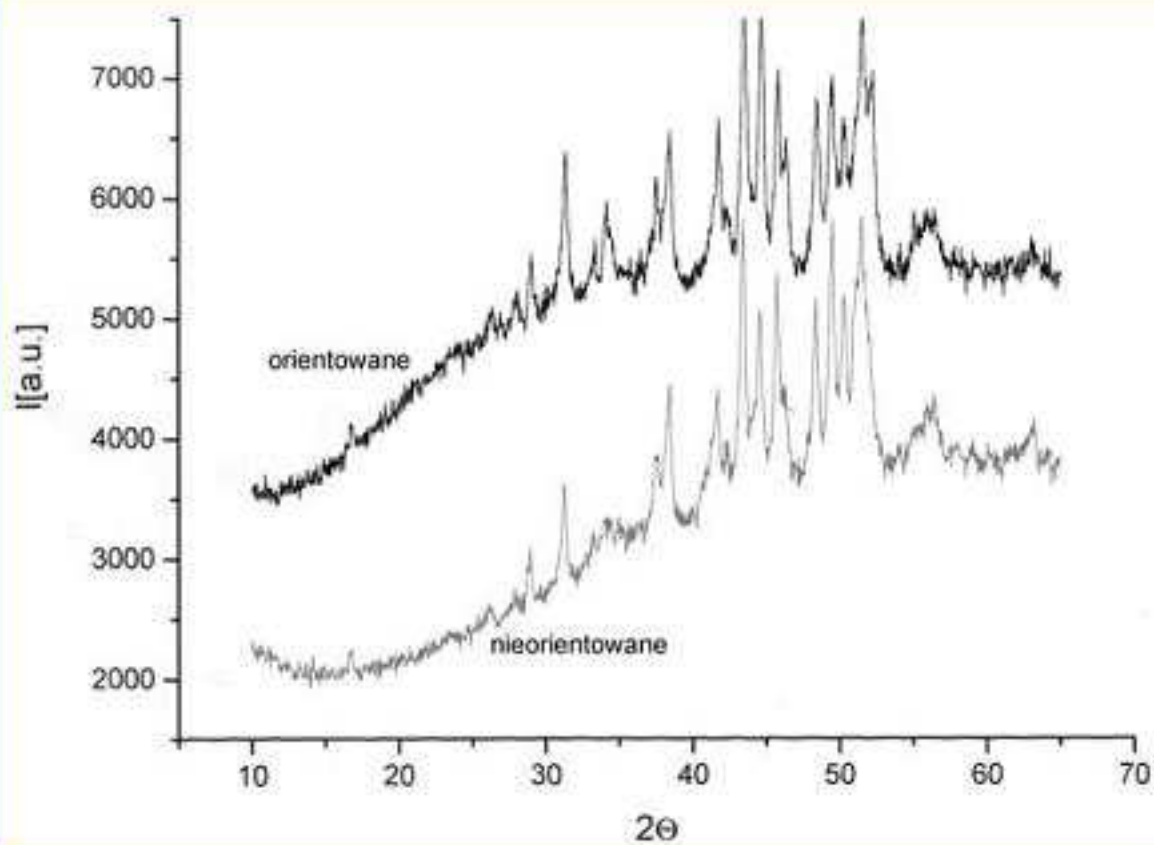
The look of samples of isotropic NdFeB magnets.



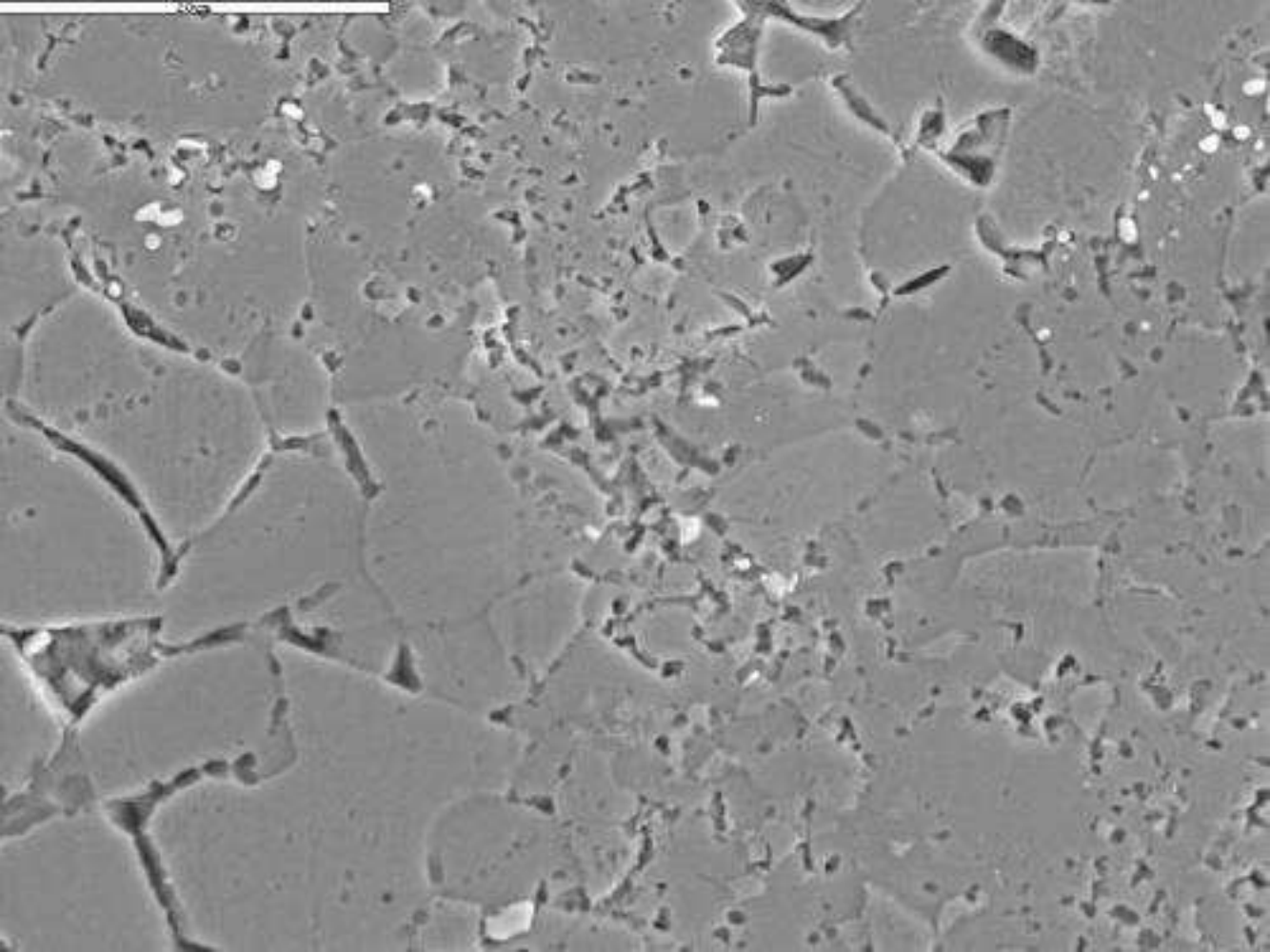
Demagnetization curves of isotropic hot pressed NdFeB magnet.







Kind of sample	Oxygen content wg. [%]
nonoriented	0,18
oriented by plastic deformation	0,21



Conclusions