Mini Thesis, Bachelor or Master Thesis

Cold roll bonding of metals with high difference in flow stress by using continuous conductive heating

**Topic:**
Cold roll bonding is a joining process in which two or more materials are firmly bonded, usually by applying high pressure and an annealing process afterwards. A main process limitation are high differences in flow stress of the materials. Main focus of the current research is lowering the flow stress of one material by using a continues conductive heating unit prior to roll bonding. Goals of the investigation are an increase in possible material combinations and saving the annealing process afterwards. This project gives a lot of opportunities for mini, bachelor and master thesis. Topics can include optimization of the conductive heating unit, further development of characterization methods or experiments or simulation regarding bond development.

**Your Tasks:**
- Simulations regarding bond development and characterization
- Roll bonding experiments using the conductive heating unit shown in the picture

**Your skills:**
- Basic knowledge in the field of metal forming
- Interest in the field of roll bonding including simulating the process and performing experiments
- Good knowledge of the English language
- Being initiative and work independently

**Duration:** 3-6 month  
**Beginn:** from now on

**For further Information**
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