

# The fabrication of the 1.3 GHz single-cell cavity using niobium materials with varied grain sizes

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As a part of research into the fabrication methods for superconducting radio frequency (SRF) cavities used in International Linear Collider (ILC), we have fabricated two 1.3 GHz single-cell cavities using niobium materials with different grain sizes; fine grain (ASTM 5-6) and medium grain (ASTM 0-3). Both cavities has been fabricated using identical manufacturing equipment to ensure process consistency. The half-cell parts of cavities have been formed using the same deep drawing dies and press machine. The machining and welding for assembly have been carried out using identical jigs and equipment. We present a comprehensive overview of the cavity fabrication processes in detail.

## Paper submission Plan

No

## Best Presentation

No

## Contribution track

ICABU WG1. Accelerator Systems

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