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The metallurgical texture of several pieces of the gold artefacts found in 1998 at a bronze age rampart near Bernstorf in Bavaria was studied by neutron diffraction using the STRESS-SPEC instrument at the FRM 2 reactor of the Maier-Leibnitz Center of the Technical University of Munich. The pieces consist of about 0.1 mm thick gold sheets embossed with complicated ornaments. The purpose of the studies was to obtain information on the technique used to produce these gold foils. All studied spots with about 5 mm diameter on the artefacts were found to exhibit a cube type $\{100\}\langle 100 \rangle$ texture that is typical for many cold rolled and subsequently annealed and recrystallized fcc metals. A comparison with laboratory made reference samples allowed us to rule out hammering with or without subsequent annealing or cross-rolling for the manufacture of the gold foils. Pole figures similar to those of the Bernstorf gold were obtained by rolling followed by annealing. Beyond the interest of the result for this specific example of archaeological interest, texture determinations using neutron diffraction could be shown to be an easy and completely non-destructive method for obtaining information on the production methods of archaeological gold artefacts.

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