

**2018 Mo-99 TOPICAL MEETING ON
MOLYBDENUM-99 PRODUCTION TECHNOLOGY DEVELOPMENT**

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**Niowave's Domestic Production of Mo-99 and other Fission
Fragments from LEU without a Nuclear Reactor**

T.L. Grimm, A.C. Bakken, J. Diemer, A.K. Grimm, N.C. Johnson, C.M. Krizmanich, M. Mamtimin, F.Y. Odeh, W.A. Peters, K.A. Shannon, V.N. Starovoitova, M.A. Zamirara
Niowave, Inc., 1012 N Walnut Street, Lansing 48906 – USA

ABSTRACT

Niowave is operating a closed-loop fuel cycle to domestically produce Mo-99 and other fission fragments from LEU without a nuclear reactor. Their subcritical uranium target assembly is driven by a superconducting electron linear accelerator. Fission fragments are extracted cryogenically, radiochemically processed, or separated for decay-in-storage. All remaining uranium is purified, calcined, and fabricated into targets for reirradiation. Demo scale production of 1 mCi batches (Mo-99 and Xe-133) and uranium recycling at Niowave's HQ is complete. This presentation will focus on Niowave's scale up plans to full production including, LEU inventory, NRC and FDA licensing strategies, and a path to profitability. Argonne and Y-12 are collaborating on the radiochemical extraction of Mo-99 and other fission fragments, LEU recycling, and target fabrication.