FOR IMMEDIATE RELEASE

K6TU Announces Public Release of *TERA* — Third-Generation HF Antenna Terrain Analysis Tool Now Available on K6TU.NET

Next-generation 2D ray-tracing engine succeeds TA and HFTA, with full UTD diffraction modeling and support for horizontal and vertical polarized antennas; infrastructure upgrade made possible by a grant from the Northern California DX Foundation.

WOODSIDE, CA — June 2026 — K6TU.NET today announced the public release of *TERA* (Terrain Evaluation for Radio Applications), a next-generation HF antenna terrain analysis tool for the amateur radio community. *TERA* is now available at no charge to registered users at **https://k6tu.net**.

Infrastructure Support from the Northern California DX Foundation

The interactive deployment of *TERA* on K6TU.NET was made possible through a generous grant from the Northern California DX Foundation (NCDXF), which funded a significant upgrade to the K6TU.NET compute infrastructure. This support enabled the on-demand computational performance that *TERA's* terrain analysis requires for real-time, interactive use. The NCDXF's commitment to advancing the technical resources available to the DX and contesting community is deeply appreciated, and this release would not have been possible without it.

What Is *TERA*?

TERA is a third-generation 2D ray-tracing solution for HF antenna terrain analysis, following in the footsteps of the ground-breaking work of K6STI's *TA* and N6BV's *HFTA*. Written entirely from scratch, *TERA* extends the capabilities of its predecessors in several important ways:

- **Full UTD diffraction modeling.** *TERA* implements a complete diffraction model based on the Uniform Theory of Diffraction (UTD), correcting known limitations in *HFTA's* earlier implementation. In some terrain scenarios this will produce results that differ from *HFTA* — and those differences represent improvements in accuracy.
- **Horizontal and vertical polarization.** *TERA* supports both horizontally and vertically polarized antennas, broadening its applicability across the full range of HF antenna designs in common amateur use.
- **Modern implementation.** *TERA* is free from the computational resource constraints of early-2000s implementations. It leverages current hardware and software practices and is backed by an extensive test library validated against reflection and diffraction examples from *TA*, *HFTA*, and independent references.

- **Integrated with K6TU.NET Terrain Profile service.** *TERA* builds on the terrain generation service that has supported *HFTA* users on K6TU.NET since 2015, providing a seamless upgrade path for operators already familiar with the platform.

Standing on the Shoulders of Giants

TERA's development has been a privilege shaped by exceptional expertise and generosity. Dr. James Breakall, WA3FET — whose foundational work in the early 1990s gave rise to both *TA* and *HFTA* — served as technical advisor throughout *TERA's* development. Jim provided encouragement, held the project to rigorous standards in the pursuit of physical correctness, and contributed critical validation by modeling specific test cases using Altair's *FEKO* professional RF simulation tool. His involvement has been indispensable.

TERA was inspired by the original work of Brian Beezley, K6STI on *TA* and Dean Straw, N6BV on *HTFA* that promoted the use of 2D ray-tracing to the Ham Radio community.

Ward Silver, N0AX, has provided valuable perspective on community engagement and strategy, helping to ensure that *TERA* serves the amateur radio community in the most meaningful way possible.

Grateful thanks are also extended to Randy Thompson, K5ZD, George Fremin III, K5TR, Chris Hurlbut, KL9A and others who provided initial testing and valuable feedback of the early releases of *TERA.*

How to Access *TERA*

TERA is available at no charge to registered users of K6TU.NET. Registration is free and straightforward — a simple sign-up process exists to keep the platform free of spam and unauthorized access. Once registered, *TERA* is accessible directly through the K6TU.NET Terrain Profile service at **https://k6tu.net**.

About K6TU.NET

K6TU.NET is an online service for the amateur radio community operated by Stu Phillips, K6TU. The platform has provided HF terrain analysis tools, antenna modeling support, and propagation resources to the global ham radio community since 2012.

About the Northern California DX Foundation

The Northern California DX Foundation (NCDXF) supports DXpeditions, amateur radio science, and technical advancement within the international ham radio community. More information is available at https://www.ncdxf.org.

Media Contact

Stu Phillips, K6TU
K6TU.NET - https://k6tu.net

# # #