

# MODO (with MODTRAN®)

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**9. Assignment.** Licensee may not sell, license, assign, or otherwise transfer the Software or the documentation without the written permission of ReSe, which may be withheld in ReSe’s sole discretion. Any such sale, license, sublicense, assignment, rental or transfer in breach of this provision shall be void.

**10. Amendment; Waiver; Severability.** No alteration, amendment, waiver, cancellation or other change to this Agreement shall be valid or binding unless agreed to in writing by both parties. No waiver by any party of a breach of any covenant or condition of this Agreement by any other party shall be construed to be a waiver of any succeeding breach of the same or any other covenant or condition. If any provision of this Agreement, or the application thereof, shall for any reason and to any extent be determined by a court of competent jurisdiction to be invalid or unenforceable, the remaining provisions of this Agreement shall be interpreted so as best to reasonably effect the intent of the parties. The parties further agree to replace any such invalid or unenforceable provisions with valid and enforceable provisions designed to achieve, to the extent possible, the business purposes and intent of such invalid and unenforceable provisions.

**11. U.S. Government and Spectral Sciences Not Parties; Third Party Beneficiaries.** Although the U.S. Government and Spectral Sciences are not a party to this Agreement and Licensee cannot enforce ReSe’s obligations hereunder against the U.S. Government or Spectral Sciences Inc., Licensee agrees that the U.S. Government and Spectral Sciences Inc are third party beneficiaries of the provisions that protect their interest in the Software and that they shall be entitled to enforce such provisions against Licensee. In case of such enforcement by the Government, Section Swiss OR, Abschnitt 2, Sect. C, \$211-215, hereof shall be inapplicable and U.S. federal law shall control. In case of such enforcement by SSI, Swiss OR, Abschnitt 2, Sect. C, \$211-215 hereof shall be inapplicable and the law of the Commonwealth of Massachusetts without reference to its choice of law provisions shall control.

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**13. Certification.** Upon ReSe request, Licensee agrees to provide certification of compliance with all terms and conditions of this Agreement.

IN WITNESS WHEREOF, the Licensee has executed this Agreement by online registration at <https://www.rese-apps.com/software/modo/modo-registration.html> or in written to ReSe Applications LLC and payment of the Software fee.

*The Licensor:*

*ReSe Applications LLC  
Langeggweg 3  
9500 Wil  
Switzerland*

## EXHIBIT A: SOFTWARE LICENSE PURCHASE SCHEDULE

### Type of License

- 1. Educational Use.** Educational Use licenses shall be used exclusively in connection with non-commercial teaching and undergraduate research being performed at colleges and universities. Work being performed for commercial entities and non-university research institutes does not qualify as an Educational Use.
- 2. Research Use.** Research Use licenses are sold to research institutes and universities for research projects and for regular, but non-commercial processing of research data.
- 3. Commercial Use.** All licenses that are not Educational or Research Use licenses are deemed to be Commercial Use licenses.

### Description of Software

The MODO software includes a full executable installation of the MODTRAN® software, including its inherent components and databases. MODO with MODTRAN contains GUI tools for eased interfacing with MODTRAN® which are created by ReSe and which are not related to the Licensors. The MODTRAN® software calculates atmospheric transmittance, radiation and scattering for user defined paths and wavelengths. It has served as the U.S. Air Force and DoD standard moderate spectral resolution radiative transport model for wavelengths extending from the thermal infrared (IR) through the visible and into the ultraviolet (0.2 to 10,000.0 µm). The MODTRAN® 1 cm<sup>-1</sup> statistical band model was developed collaboratively by Spectral Sciences, Inc. and the USAF Research Laboratory. New model features include (1) finer spectral resolution via the Spectrally Enhanced Resolution MODTRAN® (SERTRAN) molecular band model, (2) a fully coupled treatment of auxiliary molecular species, and (3) a rapid, high fidelity multiple scattering (MS) option. The finer spectral resolution improves model accuracy especially in the mid- and long-wave IR atmospheric windows; the auxiliary species option permits the addition of any or all of the suite of HITRAN molecular line species, along with default and user-defined profile specification; and the MS option makes feasible the calculation of Vis-nearIR databases that include high-fidelity scattered radiances. Validation calculations with the new band model algorithms against line-by-line (LBL) codes have proven successful. MODTRAN® includes flux and atmosphere-scattered solar calculations, essential components in the analysis of near- IR and visible spectral region data that are not readily generated by LBL models.

### Scope of License

Use of the MODO software, including all its MODTRAN® components is limited to Licensee's internal uses at one physical site, or in the case of personal laptop use, users whose primary place of business is a single physical site. Licensee may report on results obtained with the MODO and the underlying MODTRAN® software and should duly reference the software in reports and papers. Modification of the databases is permitted for non-commercial use, including incorporation into Licensee's internal software.

### Number of Units

The Licensee may install up to the maximum number of licenses indicated in the purchase contract in node-locked mode to computers at a site. The Software can be used by up to three personnel who are part of a workgroup or unit. Name and email address of each authorized user should be provided to ReSe. One installation of an additional backup license on portable devices, such as laptops, designated to the users and under permanent control of the workgroup are allowable, so long as use is limited to the authorized users.

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