

Installing Tracker

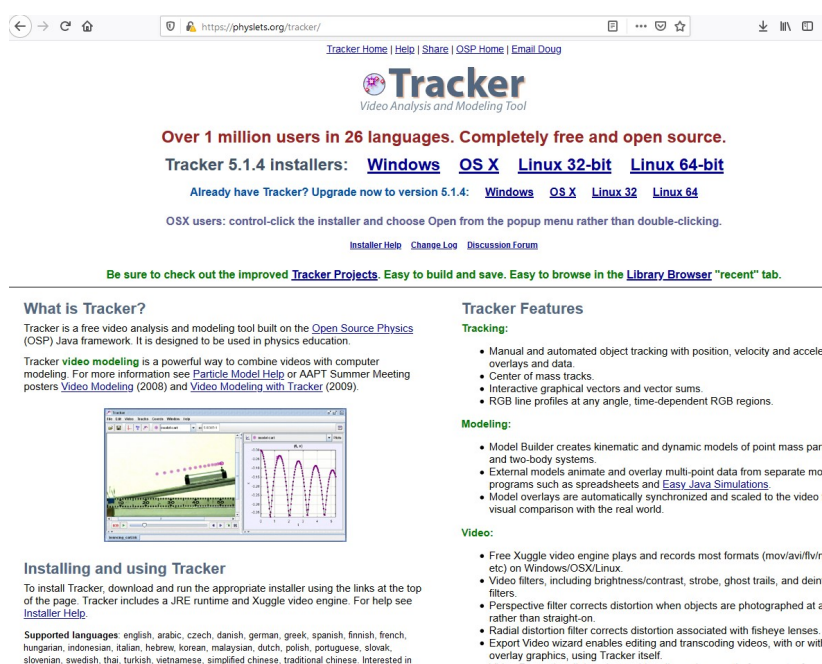
Tracker is a powerful, free software package for analysing motion (and more) in physics. It is part of the Open Source Physics project and was written by Doug Brown of Cabrillo College. Doug is a genuine physics education hero, having written a stunningly useful package and made it free. Not only that, in correspondence he comes across as a very nice guy.

The Tracker homepage, with download links, can be found here:

<https://physlets.org/tracker/>

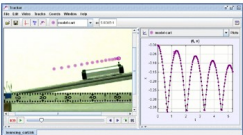
You'll see that Tracker has been written for numerous different platforms – PC, Mac and Linux. There are no iOS, Android or Chrome versions (see our material on apps for alternatives).

We've had feedback that some 'locked down' school systems will run Tracker if you install it on a pendrive at home then plug the drive into your work PC. Some will, some won't. The home page has a link on how to try.



The screenshot shows the Tracker homepage at <https://physlets.org/tracker/>. The page features the Tracker logo, navigation links (Tracker Home, Help, Share, OSP Home, Email Doug), and a prominent message: "Over 1 million users in 26 languages. Completely free and open source." Below this, it lists "Tracker 5.1.4 installers" for Windows, OS X, Linux 32-bit, and Linux 64-bit. There are also links for users who already have Tracker to upgrade to version 5.1.4. A note for OS X users advises to control-click the installer and choose Open from the popup menu. The page also includes links for Installer Help, Change Log, and Discussion Forum. A green banner encourages users to check out improved Tracker Projects. The main content area is divided into "What is Tracker?" and "Tracker Features".

What is Tracker?
Tracker is a free video analysis and modeling tool built on the [Open Source Physics \(OSP\)](#) Java framework. It is designed to be used in physics education.
Tracker **video modeling** is a powerful way to combine videos with computer modeling. For more information see [Particle Model Help](#) or AAPT Summer Meeting posters [Video Modeling \(2008\)](#) and [Video Modeling with Tracker \(2009\)](#).



The screenshot shows the Tracker software interface. It features a video player on the left with a green arrow indicating motion, and a graph on the right showing a sinusoidal wave. The interface includes various toolbars and a control panel at the bottom.

Installing and using Tracker
To install Tracker, download and run the appropriate installer using the links at the top of the page. Tracker includes a JRE runtime and Xuggle video engine. For help see [Installer Help](#).

Supported languages: english, arabic, czech, danish, german, greek, spanish, finnish, french, hungarian, indonesian, italian, hebrew, korean, malaysian, dutch, polish, portuguese, slovak, slovenian, swedish, thai, turkish, vietnamese, simplified chinese, traditional chinese. Interested in

Tracker Features

Tracking:

- Manual and automated object tracking with position, velocity and acceleration overlays and data.
- Center of mass tracks.
- Interactive graphical vectors and vector sums.
- RGB line profiles at any angle, time-dependent RGB regions.

Modeling:

- Model Builder creates kinematic and dynamic models of point mass parti and two-body systems.
- External models animate and overlay multi-point data from separate mod programs such as spreadsheets and [Easy Java Simulations](#).
- Model overlays are automatically synchronized and scaled to the video fo visual comparison with the real world.

Video:

- Free Xuggle video engine plays and records most formats (mov/avi/ff/vmj etc) on Windows/OSX/Linux.
- Video filters, including brightness/contrast, strobe, ghost trails, and deinte filters.
- Perspective filter corrects distortion when objects are photographed at an rather than straight-on.
- Radial distortion filter corrects distortion associated with fisheye lenses.
- Export Video wizard enables editing and transcoding videos, with or with overlay graphics, using Tracker itself.

There are .jar versions of Tracker which should run on your computer if the Java Runtime Environment is installed. You may have difficulty analysing most video files with this setup, but if you can convert your files to gif or you only want to analyse still images (see material on Newton's Rings and Double Slits) you should be fine. Even computers that don't allow you to run executable (.exe) files might let you off with this.

We have had Tracker PC running on a Chromebook and in a Chrome browser without installation using the Rollapp platform:

<https://www.rollapp.com/app/tracker>

The free version of this does not allow you to save and uploading files is a bit of a nuisance, but it's doable.

We won't cover everything Tracker can do. If you try something we don't go over, please let us know how it went.