# Fall Detection

**Root-of-Sum-Squares (RSS)** – The total acceleration from the X, Y, and Z axis are combined.





**Lower Fall Peak (LFP)** – Check the acceleration when the value plummets down towards 0G in a free fall until finally reaching impact.

**Lower Fall Threshold (LFT)** – Using training data of LFP to establish a lower threshold value.

**Lower Lying Peak (LLP)** – The body posture in the lying position.

**Upper Fall Peak (UFP)** – The force from the impact with the ground. This force leads to the vertical acceleration value increasing quickly towards the opposite direction of the acceleration due to gravity.

**Upper Fall Threshold (UFT)** – Using training data of UFP to establish an upper threshold value.

**Upper Lying Peak (ULP)** - The body posture in the lying position.

**Falling-Edge Time (tfe)** – the time from when the RSS signal last goes below the LFT until it reaches the UFT.

**Rising-Edge Time (tre)** – the time for when LFT is last exceeded until UFT is exceeded. This is always a subset and smaller than tfe.

**Velocity** – measure the critical phase of a fall –



**Fall Index**



**Z2**



# Android

To install the Android USB driver on Windows 7 for the first time: [link](http://developer.android.com/sdk/oem-usb.html#Win7)

* Connect your Android-powered device to your computer's USB port.
* Right-click on Computer from your desktop or Windows Explorer, and select Manage.
* Select Devices in the left pane.
* Locate and expand Other device in the right pane.
* Right-click the device name (such as Nexus S) and select Update Driver Software. This will launch the Hardware Update Wizard.
* Select Browse my computer for driver software and click Next.
* Click Browse and locate the USB driver folder. (The Google USB Driver is located in <sdk>\extras\google\usb\_driver\.)
* Click Next to install the driver.

Or, to upgrade an existing Android USB driver on Windows 7 with the new driver:

* Connect your Android-powered device to your computer's USB port.
* Right-click on Computer from your desktop or Windows Explorer, and select Manage.
* Select Device Manager in the left pane of the Computer Management window.
* Locate and expand Android Phone in the right pane.
* Right-click Android Composite ADB Interface and select Update Driver. This will launch the Hardware Update Wizard.
* Select Install from a list or specific location and click Next.
* Select Search for the best driver in these locations; un-check Search removable media; and check Include this location in the search.
* Click Browse and locate the USB driver folder. (The Google USB Driver is located in <sdk>\extras\google\usb\_driver\.)
* Click Next to upgrade the driver.

03-21 23:15:00.212: E/AndroidRuntime(1947): Caused by: java.lang.SecurityException: Sending SMS message: Neither user 10041 nor current process has **android.permission.SEND\_SMS.**