Dave G7UVW performed some interesting experiments that I hadn't tried, or heard of being tried, before. He used Infra-red (IR) diodes (such as found in a TV remote control) and ultra violet (UV) diodes.

Dave noted:

"I've just come across your site using LEDs as varicaps - an idea I'd had in the past but never followed up. It seems from your data that the shorter wavelength LED, the small the the capacitance range possible. I wonder if you've investigated perhaps using Infra Red LEDs? As the wavelength is longer than the red devices, perhaps you'd get a larger cap range (if the trend from your measurements holds true)?" .

Reporting on his findings, Dave says:

"Contrary to my expectations, the IR LED I measured didn't have a very large capacitance - it was a modern device though - perhaps the older ones would fit the trend. I have some of those somewhere...

I also dug out a couple of other LEDs I had in the box that were not types you'd tested. A 3mm white LED and a 6mm UV LED. Both show reasonable capacitance swings, I'm going to make up a VFO with them now and see how they perform in real service.

I tested a couple of each type of LED and the general trend was the same for each - I've only plotted specific data for one of each type though. Ambient light didn't seem to affect the UV or white LED significantly, but the IR LED shifted by about 1-2 pF depending on illumination level."

Dave's results are charted below:

{gallery}varicapg7uvw{/gallery}

Many thanks Dave for sharing these interesting measurements and observations, which certainly add to the completeness of the information presented here on this topic. Dave's oiginal Excel spreadsheet containing the raw data is available by clicking here .

Websites of Dr Dave Mills:

http://webshed.org
http://www.flickr.com/photos/dtl/