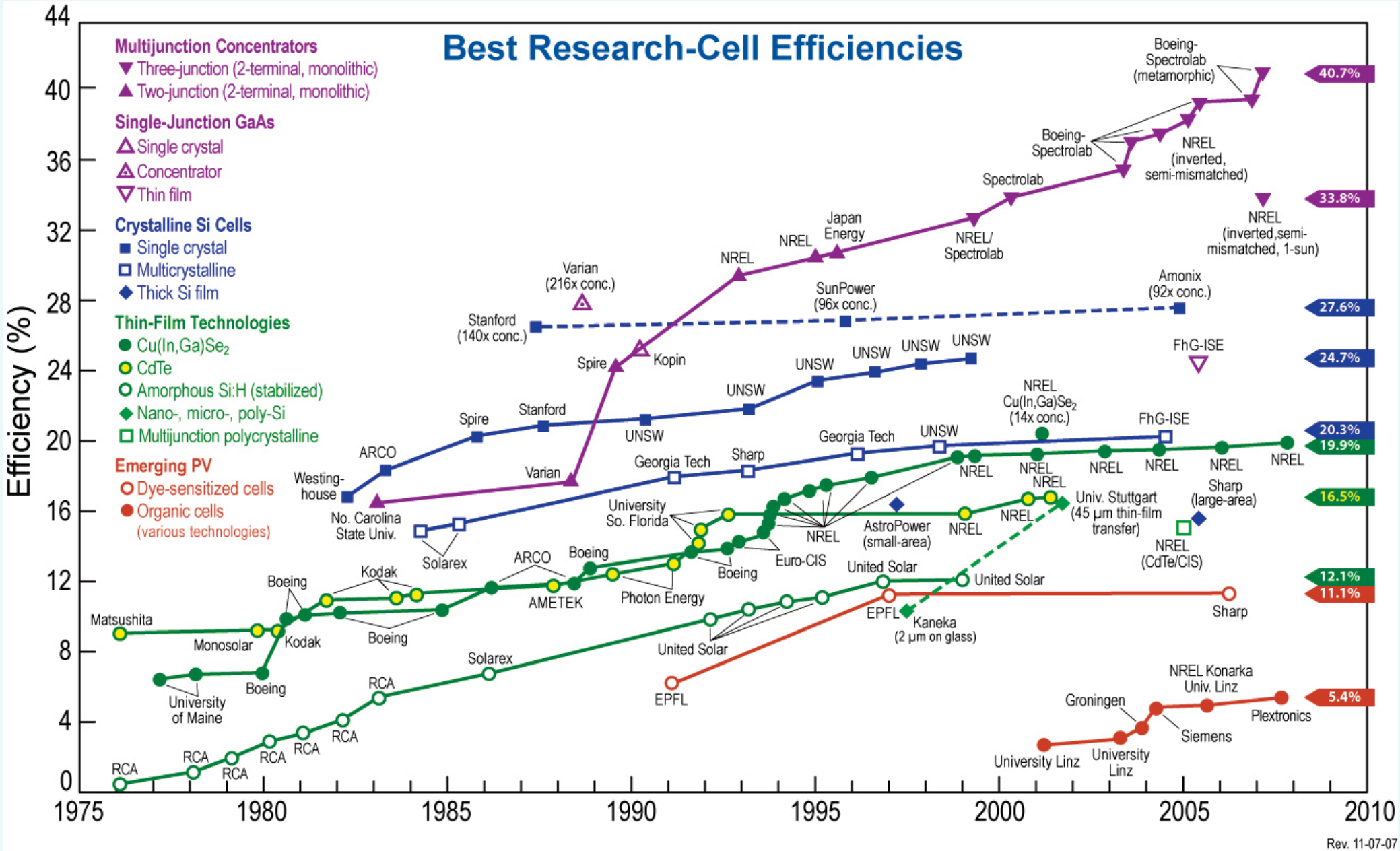
Best Research-Cell Efficiencies
Multijunction Concentrators
Three-junction (2-terminal, monolithic)
Two-junction (2-terminal, monolithic)
Single-Junction GaAs
Single crystal
Concentrator
Thin film
Crystalline Si Cells
Single crystal
Multicrystalline
Thick Si film
Thin-Film Technologies
Cu(In,Ga)Se2
CdTe
Amorphous Si:H (stabilized)
Nano-, micro-, poly-Si
Multijunction polycrystalline
Emerging PV
Dye-sensitized cells
Organic cells
(various technologies)
Efficiency (%)
Boeing-Spectrolab (metamorphic)
Boeing-Spectrolab
NREL (inverted, semi-mismatched)
Spectrolab
NREL (inverted,semi-mismatched, 1-sun)
Japan Energy
NREL
NREL/ Spectrolab
Varian (216x conc.)
SunPower (96x conc.)
Amonix (92x conc.)
Stanford (140x conc.)
FhG-ISE
Spire
Kopin
UNSW
NREL Cu(In,Ga)Se2 (14x conc.)
Spire
Stanford
ARCO
Westing-house
Varian
Georgia Tech
Sharp
No. Carolina State Univ.
Solarex
University So. Florida
Univ. Stuttgart (45 µm thin-film transfer)
Sharp (large-area)
AstroPower (small-area)
NREL (CdTe/CIS)
Euro-CIS
Boeing
Kodak
ARCO
AMETEK
Photon Energy
United Solar
Matsushita
Monosolar
Kodak
Boeing
University of Maine
Boeing
Solarex
RCA
EPFL
Kaneka (2 µm on glass)
Sharp
NREL Konarka Univ. Linz
Groningen
Plextronics
Siemens
University Linz
University Linz
40.7%
33.8%
27.6%
24.7%
20.3%
19.9%
16.5%
12.1%
11.1%
5.4%
Rev. 11-07-07