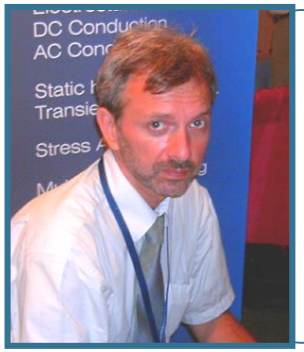
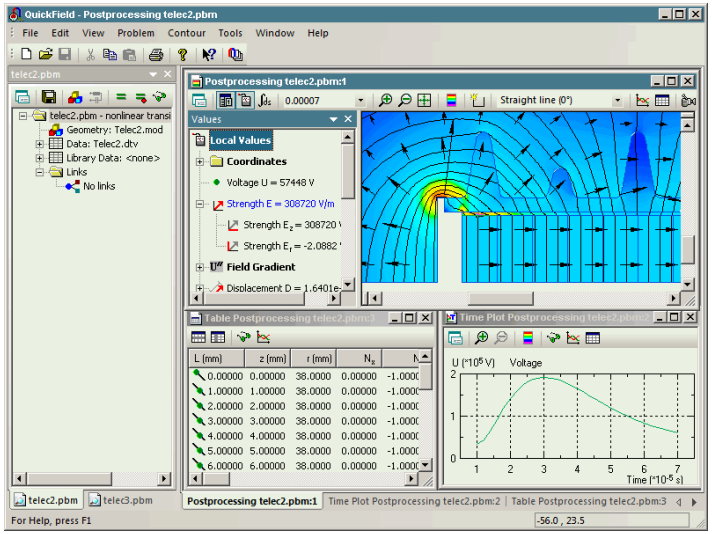
QuickField 5.9 overview



Vladimir Podnos,
Director of Marketing and Support,
Tera Analysis Ltd.

QuickField Analysis Options



- Magnetic Suite
  - AC Magnetics
  - Transient + DC Magnetics
    - DC Magnetics
- Electric Suite
  - AC conduction + Electrostatics & DC conduction
  - Transient Electric + Electrostatics & DC conduction
    - Electrostatics & DC conduction
- Thermostructural
  - Stress Analysis
  - Transient Heat transfer
    - Steady State Heat transfer

MultiPhysics.

Temperature Field

Electromagnetic fields

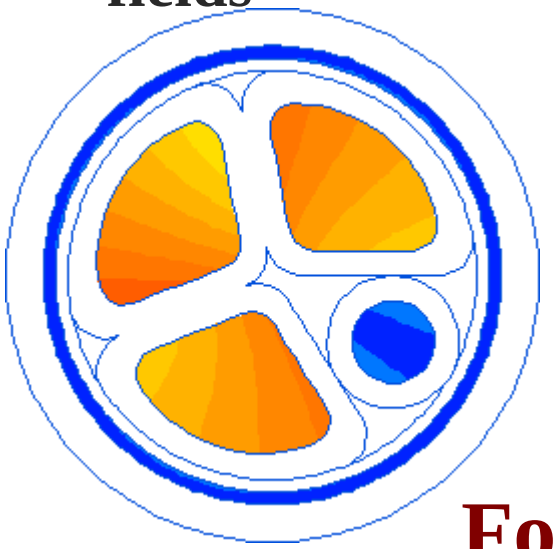
Joule Heat

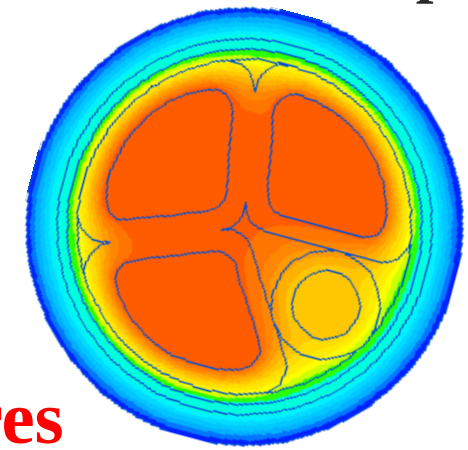
Temperatures

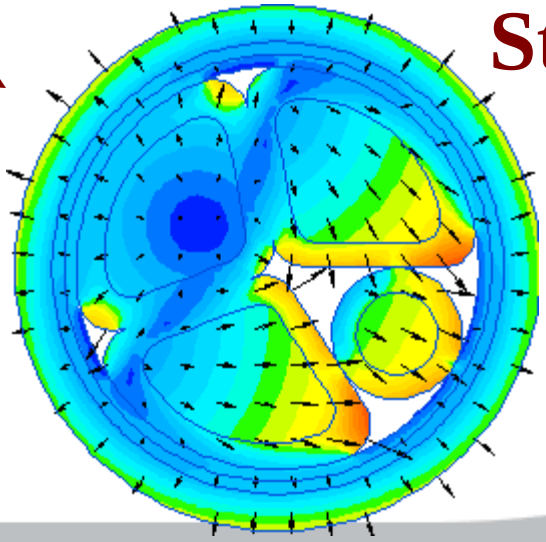
Thermal Stresses

Forces

Stresses & Deformations







QuickField Difference

Temperature dependent conductivity

$$\rho = \rho_0(T_0)\left(1 + \alpha(T - T_0)\right)$$

ρ – resistivity at the temperature T;

ρ_0 – resistivity at the initial temperature T_0;

α – temperature coefficient

$\sigma = 1/\rho$ – conductivity

	Temperature coefficient *α (1/degree)*	Relative change of the conductivity with the temperature:		
		20 °C	75 °C	100 °C
Silver	0.0038	1	0.82713	0.766871
Aluminum	0.0039	1	0.823384	0.762195
Iron	0.005	1	0.784314	0.714286
Carbon (amorphous)	-0.0005	1	1.028278	1.012658
Silicon	-0.0075	1	1.702128	2.5

Temperature dependent conductivity

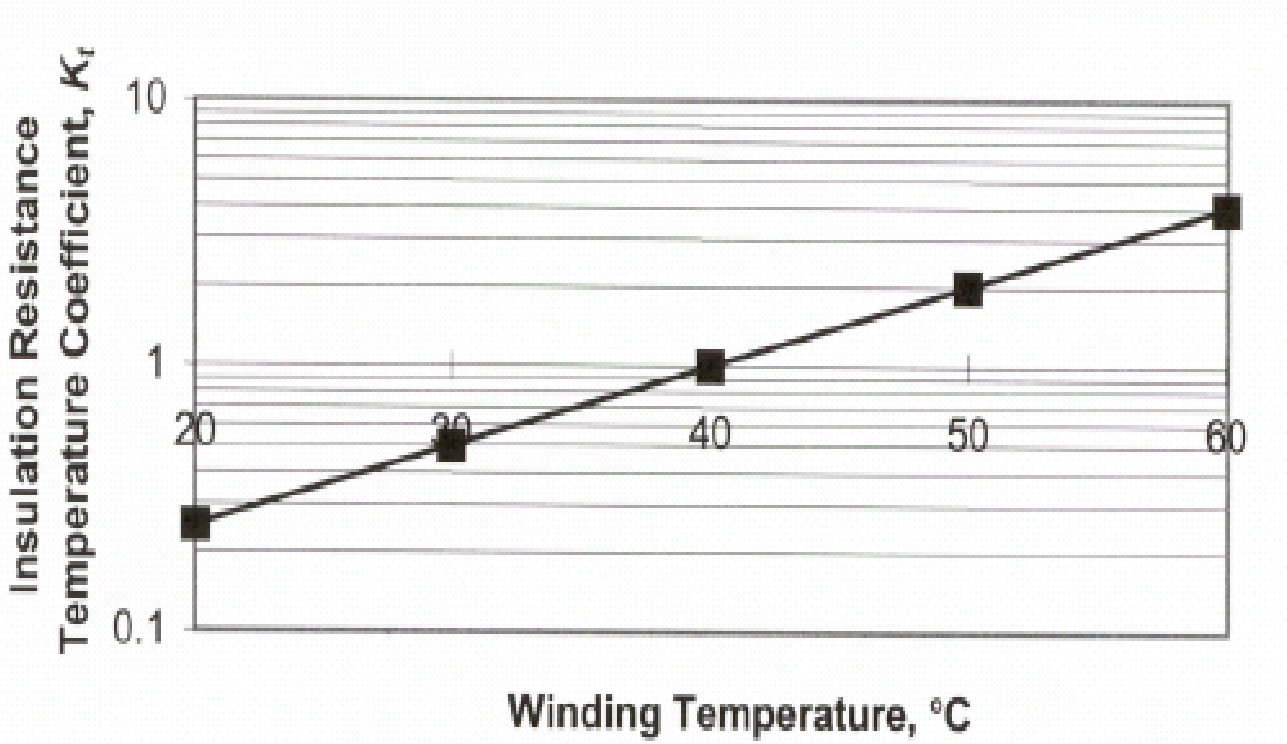
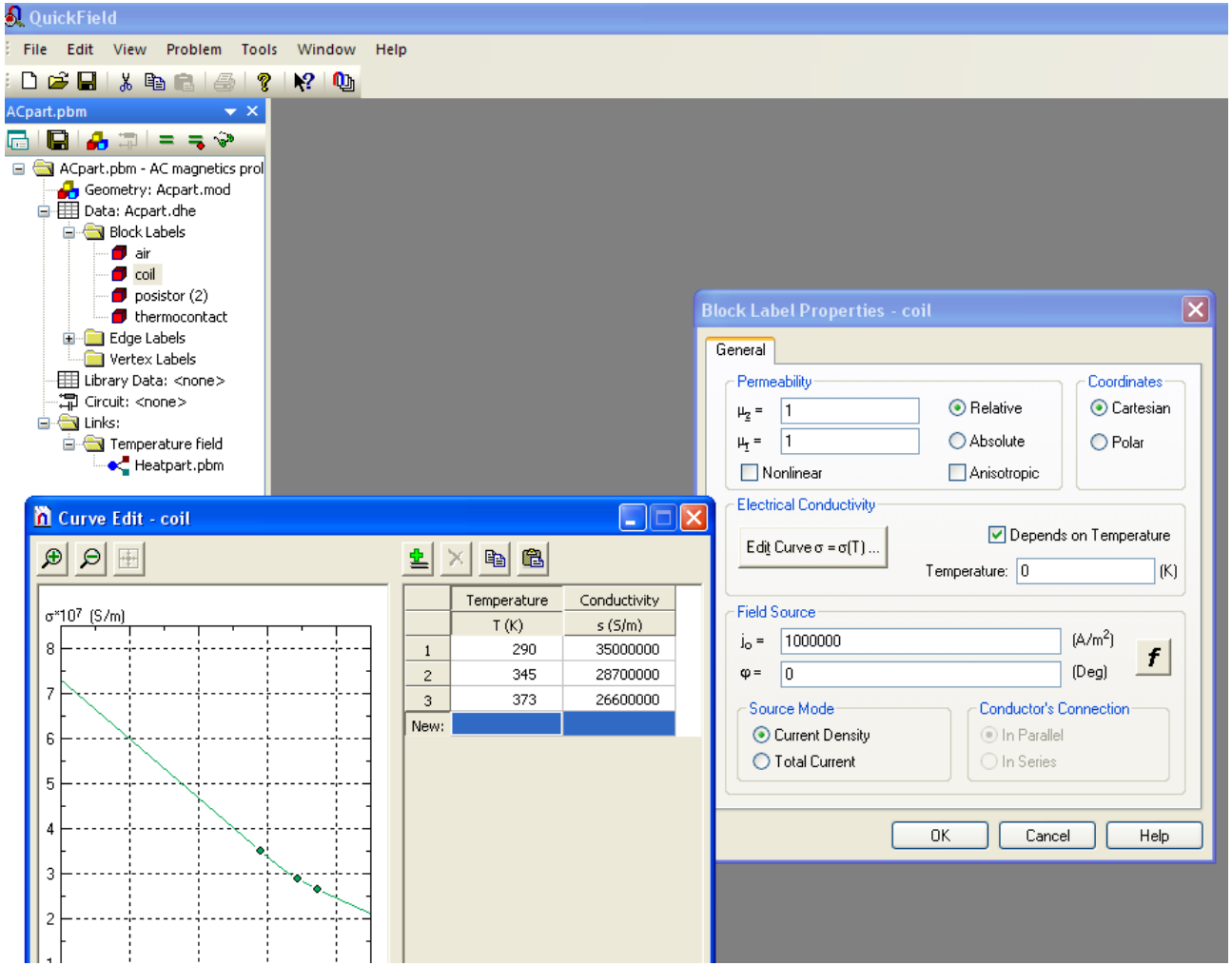


Figure 5—Approximate insulation resistance coefficient, K_T, for insulation halving for 10 °C rise in temperature

(From IEEE standard P43-2000 draft)

Temperature-dependent conductivity

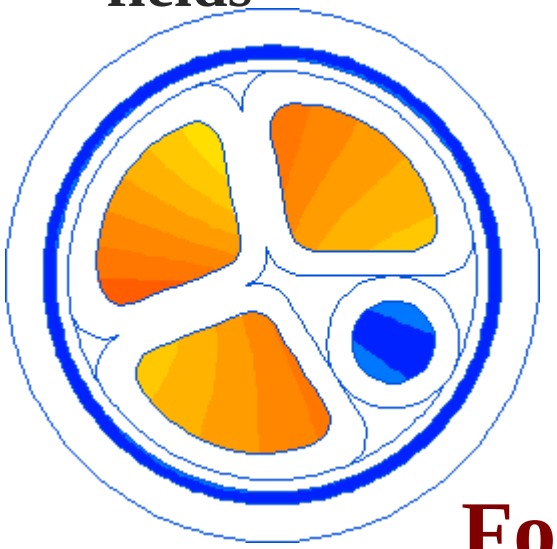


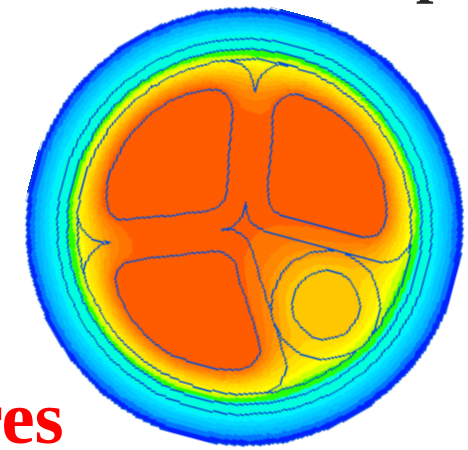
Temperature-dependent conductivity

Temperature Field

Electromagnetic fields

Joule Heat

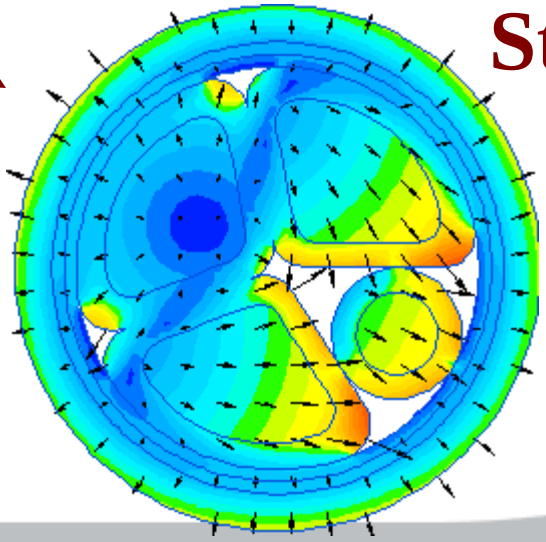




Temperatures

Thermal Stresses

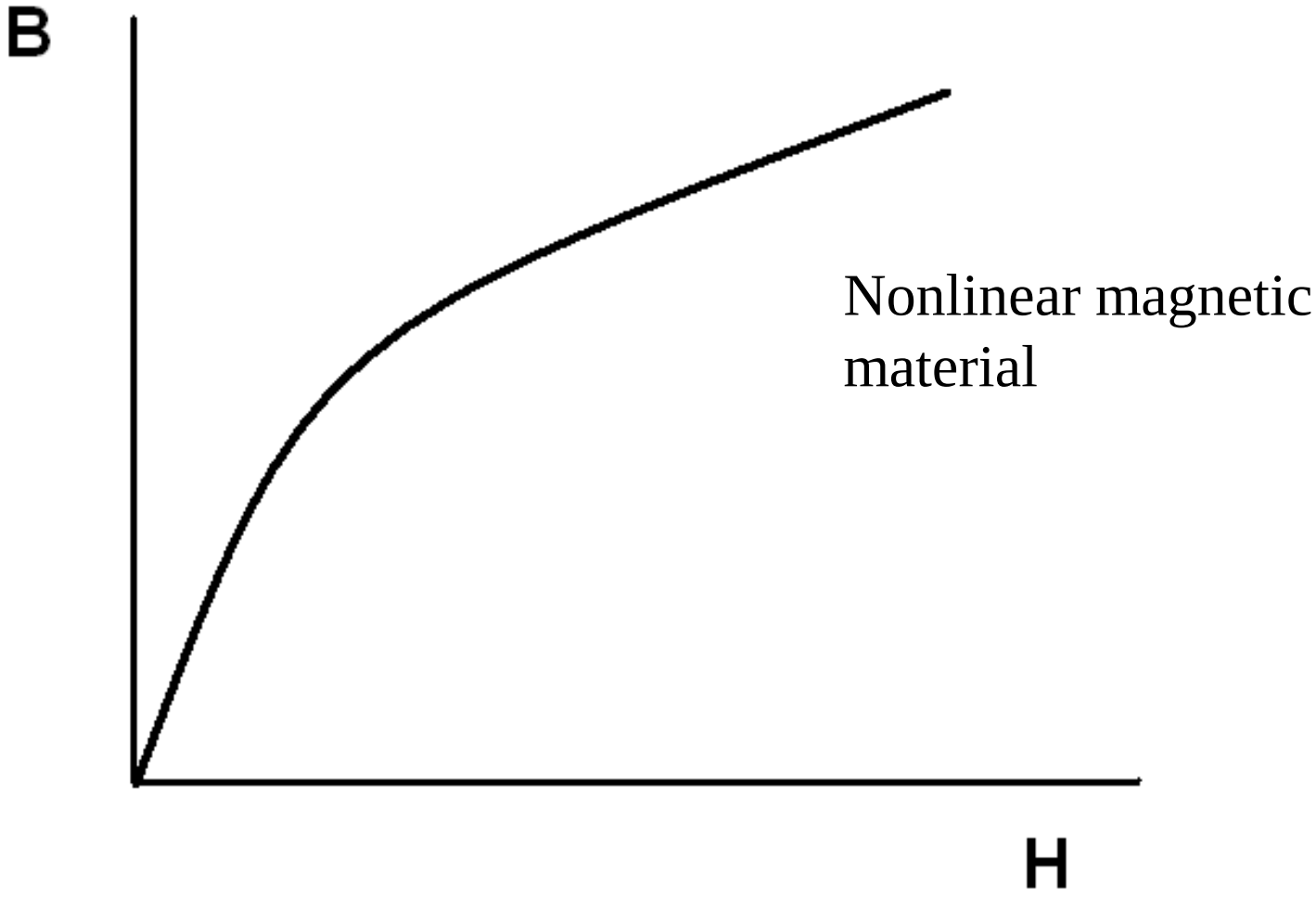
Forces



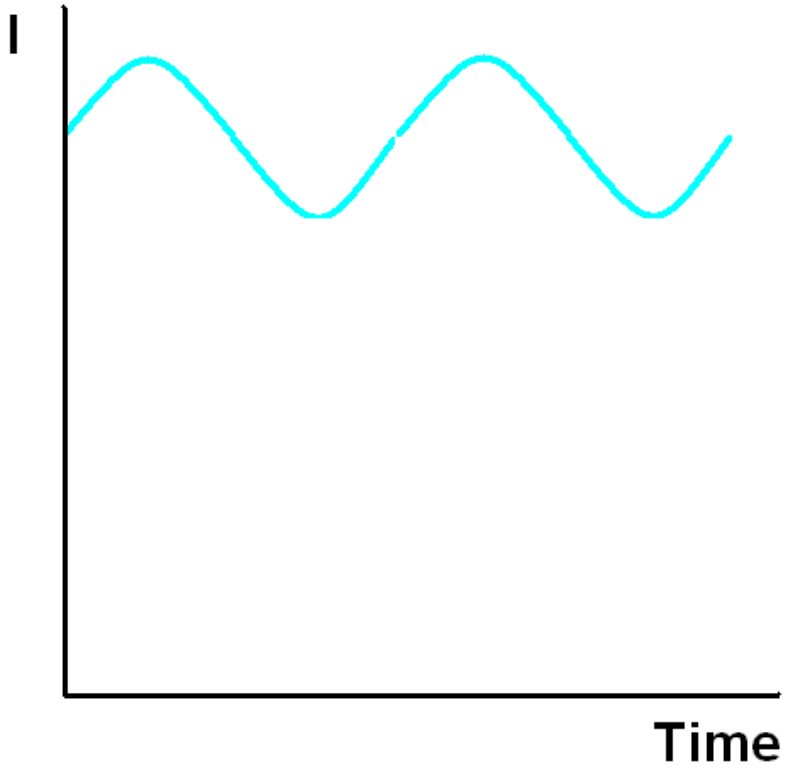
Stresses & Deformations

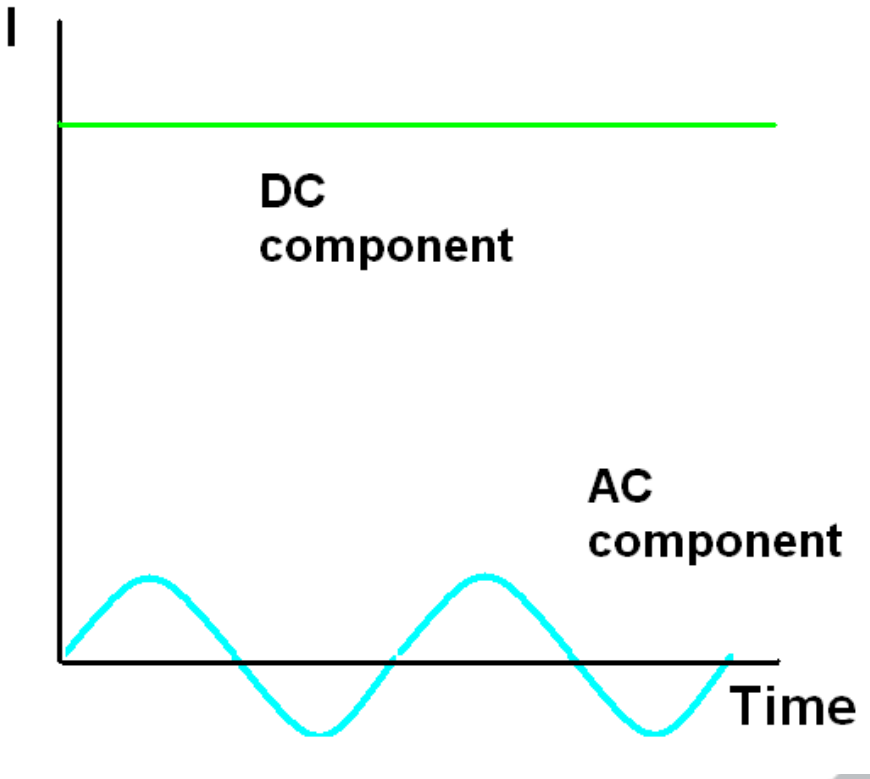
Short poll.
Ask your questions!

Import of DC-biased magnetic permeability to AC Magnetic problems



Import of DC-biased magnetic permeability to AC Magnetic problems





Import of DC-biased magnetic permeability to AC Magnetic problems

System requirements

- Windows XP, Vista or Windows 7, USB port for copy-protection
- 2 GB RAM for individual simulations OR
- More RAM for parametric studies on a multicore system

How to keep the version current

- One-time update costs 30 % and includes one-year maintenance
- 12 months maintenance with free updates costs 20 %
(available for latest version only)
- All new orders go with 3 month maintenance included