2.3. Overlapping and Nonoverlapping DDMs as Parallel PDE Solvers / Preconditioners

■ Since the beginning of the 80s, mathematians (Kuznetsov, Matokin, Nepomnyschikh, Dryja,...) started to publish on DDMs for constructing parallel solution techniques for PDEs

■ Since 1986/87, the interest in DDMs was growing :
→ First transputer systems were a breakthrough in the price - performance ratio !
→ First international DD conference in Paris (1987)

⋮ Como (1992), Chiba (1999), Berlin (2003)

17th DD in Strobl (2006)
⋮

23rd DD in Jeju Island, South Korea (2015)
http://www.ddm.org

■ Now (2015):
Practise: overlapping and nonoverlapping DDMs are the basic tools for constructing parallel preconditioners / solvers for large-scale FE equations !
Theory : Schwarz analysis → Chapter 3

Moreover, DDMs are widely used to couple different
• discretization techniques and
• physical models !