On development of difference methods for some classical and non-classical initial-boundary value problems stated for pluri-parabolic equations

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We describe research on some classical and non-classical initial-boundary value problems stated for pluri-parabolic equations, particularly the construction and investigation of difference algorithms for their resolution. We obtain uniqueness results, demonstrate an iteration process which reduces the solution of the non-local problem to that of the classical one and which converges geometrically, and build averaged decomposition algorithms of parallel count for pluri-parabolic equations.