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EXISTENCE THEOREMS FOR SOME NONLINEAR EQUATIONS OF EVOLUTION*: CORRIGENDUM

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It has been recently pointed out that equations (6–11) and (7–4) employed in the proofs of Theorems 1 and 2 are incorrect. Thus, the results obtained as well as the examples considered are invalid.

However, these existence theorems become valid if we further restrict the functions A_α in the family

$$A(t)u(x) = \Sigma_{|\alpha|\leqq m} D^\alpha A_\alpha(x, t, u(x), \ldots, D^m u(x)), \; t \in E^1,$$

to be of the form

$$A_\alpha(x, t, u(x), \ldots, D^m u(x)) = \Sigma_{|\beta|\leqq m} a_{\alpha\beta}(x, t) D^\beta u(x) + B_\alpha(x, t, u(x), \ldots, D^{m-1}u(x)),$$

set $p = 2$ throughout (i.e. $W \equiv W_0^{m,p}(\Omega) = W_0^{m,2}(\Omega)$), and replace condition (I.1) by the following:

(I.1) Each $a_{\alpha\beta}(x, t)$ is measurable in x for fixed t, once continuously differentiable in t on E^1 and periodic in t of period τ for almost every fixed x in Ω and is in $L^\infty(\tau; L^\infty(\Omega)) \cap L^\infty(\Omega \times E^1)$. Each B_α, $|\alpha| \leqq m$, satisfies the same growth (with $p = 2$), measurability and continuity conditions as the functions B_β appearing in Definition 3.1.

The monotonicity conditions (I.2)–(ii) and (II.2) on problems I and II, respectively, are no longer necessary and Theorems 1 and 2 follow directly from Lemmas 5.1 and 6.1 without recourse to equations (6–11) and (7–4) or any portion of the monotonicity argument. Finally, reference [**16**, p. 60] on page 738 should be deleted. Unfortunately, some generality is lost. In particular, the corrected results do not include families $A(t)$ with nonlinear terms in the highest order space derivatives.

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