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Jerry L. Bona and **Fred B. Weissler*** (weissler@math.univ-paris13.fr). *Finite time blowup and global existence for complex-valued solutions of the Korteweg-de Vries equation with periodic boundary conditions.* Preliminary report.

We consider complex-valued solutions to the Korteweg-de Vries equation $u_t + u_{xxx} + (u^2)_x = 0$ with periodic boundary conditions, specifically solutions with only positive Fourier modes present. For such solutions we give sufficient conditions for finite time blow up, and sufficient conditions for global existence. For example, with initial value $u_0(x) = ae^{ix}$, we show that if $|a| > 6$, then the resulting solution blows up in finite time. On the other hand, if $|a| < 1/2e\pi$, then the resulting solution is global, and time-periodic as well. (Received August 07, 2015)