

SUB Göttingen

7

215 983 793



2003 A 17446

**GLOBAL SOLUTIONS  
FOR SMALL NONLINEAR  
LONG RANGE PERTURBATIONS  
OF TWO DIMENSIONAL  
SCHRÖDINGER EQUATIONS**

**Jean-Marc Delort**

# CONTENTS

<b>Introduction</b> .....	1
<b>1. The nonlinear Schrödinger equation</b> .....	5
1.1. Statement of main results .....	5
1.2. First reductions .....	6
<b>2. Linear estimates</b> .....	9
2.1. Symbolic calculus and applications .....	9
2.2. Spaces of distributions and linear inequality .....	14
<b>3. Nonlinear estimates</b> .....	29
3.1. Estimates for products .....	29
3.2. Conjugation by an oscillatory exponential .....	45
<b>4. Proof of the main theorem</b> .....	63
4.1. Main reductions .....	63
4.2. Existence of the global solution .....	84
<b>Bibliography</b> .....	93