

**899 So.2d 403 (2005)****Edwin MATOS, Appellant,  
v.  
STATE of Florida, Appellee.**No. 4D03-2043.**District Court of Appeal of Florida, Fourth District.**

March 30, 2005.

Rehearing Denied May 5, 2005.

404 \*404 Jack A. Fleischman of Fleischman &amp; Fleischman, West Palm Beach, for appellant.

Charles J. Crist, Jr., Attorney General, Tallahassee, and David M. Schultz, Assistant Attorney General, West Palm Beach, for appellee.

405 \*405 TAYLOR, J.

Edwin Matos appeals his conviction and sentence for two counts of manslaughter resulting from a tragic automobile accident. He raises six points on appeal. We affirm as to all, but discuss two issues, which raise questions of first impression under Florida law. These concern admissibility of the "black box" speed recording data retrieved by police after the fatal crash.

On August 17, 2002, at approximately 12:55 a.m., two sixteen year old girls were killed when their vehicle was struck by the defendant's Pontiac Trans Am in a residential neighborhood in Pembroke Pines. The girls were backing from their driveway into the street when the defendant's vehicle struck them. According to the "black box" speed recording device in his car, the defendant was speeding 114 miles per hour in an area with a posted speed limit of 30 miles per hour. The defendant's speed was the central question in this case. The lowest estimate was the defense expert's estimated speed of 56.91 mph. The state's expert estimated a minimum crash speed of 80-98 mph, based on traditional accident reconstruction techniques utilizing conservation of momentum principles. He also testified that because the speedometer was found after the crash with the speedometer needle flipped over to 150, the needle had to have been past 12 o'clock on the dial when power was lost (and gravity took over), meaning a minimum speed at impact of 80 miles per hour.

The "black box" computer which operated the defendant's airbag recorded a speed of 114 mph just four seconds prior to the crash and a speed of 103 mph within one second of the crash. Evidence showed that the defendant's airbag was working properly at the time of the accident.

The "black box" is generally called an "event data recorder" (EDR). In General Motors products, the proprietary name is a "Sensing & Diagnostic Module" (SDM). The defendant challenged the admissibility of the SDM data under the general acceptance standard of *Frye v. United States*, 293 F. 1013, 1014 (D.C.Cir.1923), and under the Florida speed recording statute, section 316.1905(1), Florida Statutes (2003).

A "black box" or EDR is mandated by the federal government in airplanes, ships, and trains, and more recently in buses and motor coaches. The EDR records data that can be used in accident reconstruction. One of the main purposes of EDRs in airplanes is to enable the National Transportation Safety Board (NTSB) to analyze the cause of any crash.

The state called two experts to testify at the *Frye* hearing. Donald Felicella, an accident reconstructionist with training in the EDR technology, testified that the EDR is part of the airbag system. In fact, it is the brains of the system which tells the airbag whether to deploy or not. All vehicles with airbags have an EDR.

EDRs were first used in automobiles in the 1970s, when airbags first came out. Automobile manufacturers have been using the data ever since to collect real world crash data, which they used, for example, in modifying airbag designs. The data is also being used in the medical field to compare injury forces acting on the body and by insurance companies with regard to claims. Felicella testified that information from the SDM is generally accepted in the accident crash investigation community,

in the insurance field, and in medical research and biomechanics. It is also being used by the National Highway Traffic Safety Administration (NHTSA).

406 Dr. Robert McElroy was the state's other expert witness at the *Frye* hearing. Dr. McElroy has a doctorate in industrial \*406 engineering and industrial education. He worked for General Motors for over three years, where he was responsible for engine and computer control systems. He is also chairman of the Society of Automotive Engineers (SAE) EDR committee. The SAE sets standards in the auto industry for design criteria and crash testing, and it prepares research papers in the fields of accident reconstruction, biomechanics, and crashworthiness. Dr. McElroy also works with Georgia Tech on an EDR project sponsored by the NHTSA.

Dr. McElroy testified that the NHTSA is using SDMs in their studies and that the NTSB has used and examined them. He testified that data collected by SDMs are generally accepted within the fields of automobile safety, accident reconstruction, and automotive design. He testified that even though the public has only had the data available for three or four years, the NHTSA has had their crash teams using the data since around 1995. Dr. McElroy further testified that the SDM is extremely accurate because it is a digital system. The data derived from the SDM reflects the electronic system of the car. Dr. McElroy acknowledged, however, that he utilizes other crash information to verify the accuracy of the data because the SDM is just a tool.

The state introduced an SAE paper entitled "Accuracy of Pre-Crash Speed Captured by Event Data Recorders," authored by employees of McGinnis Engineering. That study concluded that the EDR data overestimated vehicle speeds by a mere 1 mph at low speeds and by 2.5 mph at high speeds.

Another paper presented to the court, "Recording Automotive Crash Event Data," authored by staff of the NHTSA and General Motors engineers, discussed the accuracy of EDR vehicle speed data. It included a case study the NHTSA did on real life crashes, which calculated an accuracy of  $\pm 4\%$  for the vehicle speed component.

The defense offered no evidence at the *Frye* hearing.<sup>[1]</sup> The trial court ruled that the SDM data was generally accepted within the automotive and accident reconstruction community and thus met the *Frye* standards for admissibility.

## Frye Analysis

The trial court's ruling on a *Frye* issue is subject to *de novo* review. *Ramirez v. State*, 810 So.2d 836, 844 (Fla. 2001). Even in criminal cases, a *Frye* determination is made by a preponderance of the evidence standard. See *Brim v. State*, 695 So.2d 268, 272 (Fla.1997). The issue of general acceptance is to be gauged as of the time of the appeal, rather than at the time of trial. *State v. Sercey*, 825 So.2d 959, 980 (Fla. 1st DCA 2002) (quoting *U.S. Sugar Corp. v. Henson*, 787 So.2d 3, 15 (Fla. 1st DCA 2000)), approved, 823 So.2d 104 (Fla.2002)).

407 The introduction of expert proof concerning a new or novel scientific principle or process is a four-step procedure: 1) the trial judge must determine whether such expert testimony will assist the jury in understanding the evidence or in determining a fact in issue; 2) the trial judge must decide whether the expert's testimony is based on a scientific principle or discovery that is "sufficiently established to have gained general acceptance in the particular field in which it belongs"; 3) the trial judge must determine whether a particular \*407 witness is qualified as an expert to present opinion testimony on the subject in issue; 4) the judge may then allow the expert to render an opinion on the subject of his or her expertise, and it is then up to the jury to determine the credibility of the expert's opinion, which it may either accept or reject. *Ramirez v. State*, 651 So.2d 1164, 1166-67 (Fla.1995) (quoting *Frye*, 293 F. at 1014).

The second prong of the above procedure is the so-called *Frye* "general acceptance" test. In this case, the defendant argues that the EDR/SDM evidence did not meet the *Frye* test for admissibility and was therefore admitted in error. The Florida Supreme Court explained in *Ramirez*:

The underlying theory for this rule is that a courtroom is not a laboratory, and as such it is not the place to conduct scientific experiments. If the scientific community considers a procedure or process unreliable for its own purposes, then the procedure must be considered less reliable for courtroom use.

810 So.2d at 843 (quoting *Stokes v. State*, 548 So.2d 188, 193-94 (Fla.1989)).

In meeting its burden, the proponent of novel scientific evidence may not simply rely on the statements of the expert witness who testifies regarding the technique, but must also present cases and other independent evidence demonstrating the scientific acceptability of the technique. Collier v. State, 857 So.2d 943, 945 (Fla. 4th DCA 2003). As the court explained the review process in *Ramirez*:

When applying the *Frye* test, a court is not required to accept a "nose count" of experts in the field. Rather, the court may peruse disparate sources—e.g., expert testimony, scientific and legal publications, and judicial opinions—and decide for itself whether the theory in issue has been "sufficiently tested and accepted by the relevant scientific community."

810 So.2d at 844 (footnotes omitted).

As a threshold matter, the court must decide if the evidence in question represents "new or novel" scientific evidence, since *Frye* applies only to such evidence. Spann v. State, 857 So.2d 845, 852 (Fla.2003). The only reported case we could find concerning the admissibility of SDM data determined that SDM data did not represent "new or novel" scientific evidence. See Bachman v. Gen. Motors, 332 Ill.App.3d 760, 267 Ill.Dec. 125, 776 N.E.2d 262, 281 (2002). The *Bachman* court stated:

We agree with the trial court that the process of recording and downloading SDM data does not appear to constitute a novel technique or method. . . . Crash sensors such as the SDM have been in production in automobiles for over a decade, and the microprocessors that run them and record their data also run everyday appliances, such as computers and televisions.

*Id.* The *Bachman* court went on to find in the alternative that the SDM data satisfied the *Frye* test for admissibility. *Id.* at 282-83. We agree on both points. The process of recording and downloading SDM data is not a novel technique or method. In any event, the state demonstrated that when used as a tool of automotive accident reconstruction, the SDM data is generally accepted in the relevant scientific field, warranting its introduction.

## The Speed Recording Statute

408 The defendant also argues that the trial court erred in allowing the EDR/SDM evidence as proof of the speed of the defendant's vehicle because the SDM unit did not comport with the requirements of \*408 Florida law for mechanisms used by law enforcement to measure speed.

Section 316.1905(1)(2002), Florida Statutes, in pertinent part, states:

Whenever any peace officer engaged in the enforcement of the motor vehicle laws of this state uses an electronic, electrical, mechanical, or other device used to determine the speed of a motor vehicle on any highway, road, street, or other public way, such device shall be of a type approved by the department and shall have been tested to determine that it is operating accurately. Tests for this purpose shall be made not less than once each 6 months, according to procedures and at regular intervals of time prescribed by the department.

The defendant contends that because the SDM was not approved by the Florida DHSMV nor calibrated within six months pursuant to the statute, its data was inadmissible under this section. We disagree that the SDM qualifies as a device controlled by this statute.

Questions of statutory construction present legal questions subject to *de novo* review. State v. Burris, 875 So.2d 408 (Fla. 2004). Legislative intent is the polestar that guides statutory construction. Bruner v. GC-GW, Inc., 880 So.2d 1244 (Fla. 1st DCA 2004). Section 316.1905(2)<sup>[2]</sup> and section 316.1906, discussing the admissibility of radar speed-measuring devices, make it clear that the legislature intended to regulate the accuracy of devices which are operated by law enforcement officers in determining the speed of moving vehicles, i.e., radar. The legislature never intended this statute to apply to a device internal to the vehicle and installed by the manufacturer. The SDM recorded the defendant's speed at the time of the accident automatically without any intervention by a police officer. As the state points out, the SDM was not used by a police officer to determine the speed of the defendant's vehicle while the officer was engaged in the enforcement of the motor vehicle laws of the state. It was only after a warrant had been issued and executed that the data from the SDM was obtained. We can discern no legislative intent to apply section 316.1905(1) to the SDM.

AFFIRMED.

FARMER, C.J., and STONE, J., concur.

[1] The defense expert, John Buchanan, admitted at trial that the SDM is an accurate recording device, that it is a tool to use in accident reconstruction, and that he has found it to be totally accurate in the cases he had done recently. However, he testified that the SDM does not match the physical evidence in this case.

[2] "Any police officer, upon receiving information relayed to him or her from a fellow officer stationed on the ground or in the air operating such a device that a driver of a vehicle has violated the speed laws of this state, may arrest the driver for violation of said laws where reasonable and proper identification of the vehicle and the speed of same has been communicated to the arresting officer."

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